EXHIBIT H

| | CASE 0:15-md-02666-JNE-DTS | Doq. | . 823-8 | Filed 09/12/17 Page 3 of 90 |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | | 3 |
| | 1 | | 1 | |
| 1 | | | 2 | contamination during orthopedic surgery: A randomized controlled |
| 2 | | | - | pilot trial, Oguz, et al, Journal |
| 3 | | - | 3 | of Clinical Anaesthesia, 2017 |
| 4 | | | | 5 Article, Forced-air patient warming 139 |
| 5 | | | 4 | blankets disrupt unidirectional airflow, Legg, et al, The Bone & |
| | Products Liability Litigation | | 5 | Joint Journal, 2013 |
| 7 | | | | 6 Article, Do forced air 139 |
| 8 | | | 6 | patient-warming devices disrupt |
| 9 | | | 7 | unidirectional downward airflow? Legg, et al, The Journal of Bone & |
| 10 | | - | • | Joint Surgery, 2012 |
| 11 | | | 8 | 7 G. S. Settles Lab Notebook, 21 pgs. 165 |
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| | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | | | STIREWALT & ASSOCIATES |
| CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | | 1-800-553-1953 info@stirewalt.com |
| 1 APPEARA | 2 ANCES: | | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 2 On B | ehalf of the Plaintiffs: | | | 4 |
| K | abriel Assaad ENNEDY HODGES | | 09:34:03 | PROCEEDINGS |
| | 409 Montrose Boulevard uite 200 | | 09:34:03 2 | (Witness sworn.) |
| 5 н | ouston, Texas 77006 | | 3 | GARY S. SETTLES, Ph.D., |
| | enevieve M. Zimmerman ESHBESHER & SPENCE, LTD. | | 4 | Called as a witness, being first |
| 7 1 | 616 Park Avenue | | 5 | duly sworn, was examined and |
| 8 | inneapolis, Minnesota 55404 | | 6 | |
| | | | | testified as follows: |
| | ehalf of the Defendants: | | 7 | testified as follows: EXAMINATION |
| 9 | eter J. Goss | | 8 | EXAMINATION BY MR. ASSAAD: |
| 9 10 B 4 | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street | | 8 09:34:17 9 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. |
| 9 10 B 4 11 S | eter J. Goss LACKWELL BURKE P.A. | | 8 09:34:17 9 09:34:19 10 | EXAMINATION BY MR. ASSAAD: |
| 9 10 B 4 11 S | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street uite 2500 | | 8 09:34:17 9 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. |
| 9 10 B 4 11 S | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street uite 2500 inneapolis, Minnesota 55415 | | 8 09:34:17 9 09:34:19 10 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. A. Gary Stuart Settles, S-E-T-T-L-E-S. |
| 9 Pr 4 11 S M 12 13 ALSO PR | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street uite 2500 inneapolis, Minnesota 55415 | | 8 09:34:17 9 09:34:19 10 09:34:23 11 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. A. Gary Stuart Settles, S-E-T-T-L-E-S. Q. Dr. Settles, my name is Gabriel Assaad and I |
| 9 Pr 4 11 S M 12 13 ALSO PR 14 Jasor 15 | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street uite 2500 inneapolis, Minnesota 55415 ESENT: n E. Przymus, Videographer EXAMINATION INDEX | | 8 09:34:17 9 09:34:19 10 09:34:23 11 09:34:25 12 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. A. Gary Stuart Settles, S-E-T-T-L-E-S. Q. Dr. Settles, my name is Gabriel Assaad and I represent over 2500 plaintiffs in this multidistrict |
| 9 P. 10 B 4 11 S M 12 13 ALSO PR 14 Jasor | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street uite 2500 inneapolis, Minnesota 55415 ESENT: n E. Przymus, Videographer EXAMINATION INDEX S EXAMINED BY PAGE | | 8 09:34:17 9 09:34:19 10 09:34:23 11 09:34:25 12 09:34:31 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. A. Gary Stuart Settles, S-E-T-T-L-E-S. Q. Dr. Settles, my name is Gabriel Assaad and I represent over 2500 plaintiffs in this multidistrict litigation, and I'm going to ask you numerous |
| 9 10 B 4 11 S M 12 13 ALSO PR 14 Jason 15 WITNES 16 Dr. Settl | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street uite 2500 inneapolis, Minnesota 55415 ESENT: n E. Przymus, Videographer EXAMINATION INDEX S EXAMINED BY PAGE les Mr. Assaad 4 | | 9:34:17 9 09:34:19 10 09:34:23 11 09:34:25 12 09:34:31 13 09:34:33 14 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. A. Gary Stuart Settles, S-E-T-T-L-E-S. Q. Dr. Settles, my name is Gabriel Assaad and I represent over 2500 plaintiffs in this multidistrict litigation, and I'm going to ask you numerous questions today regarding your expert report. |
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| 9 10 8 4 11 12 13 ALSO PR 14 Jason 15 WITNES 16 Dr. Settl 17 EXHIBIT 18 Settles 19 20 21 22 3 23 24 | eter J. Goss LACKWELL BURKE P.A. 31 South Seventh Street uite 2500 inneapolis, Minnesota 55415 ESENT: D. E. Przymus, Videographer EXAMINATION INDEX S. EXAMINED BY PAGE les Mr. Assaad 4 EXHIBIT INDEX DESCRIPTION PAGE Schlieren Imaging of Operating-Room 91 Airflows Associated with Patient Warming Blankets, Gary S. Settles, Ph.D., June 1, 2017 Revised - Schlieren Imaging of Operating-Room 91 Operating-Room Airflows Associated with Patient Warming Blankets, Gary S. Settles, Ph.D., June 1, 2017 Article, Effect of forced-air warming on the performance of | | 934:17 9 09:34:19 10 09:34:23 11 09:34:31 13 09:34:36 15 09:34:36 15 09:34:36 17 09:34:40 18 09:34:40 19 09:34:40 20 09:34:41 20 09:34:42 21 09:34:43 22 | EXAMINATION BY MR. ASSAAD: Q. Please state your name for the record. A. Gary Stuart Settles, S-E-T-T-L-E-S. Q. Dr. Settles, my name is Gabriel Assaad and I represent over 2500 plaintiffs in this multidistrict litigation, and I'm going to ask you numerous questions today regarding your expert report. Do you understand that? A. Yes. Q. Have you ever had your deposition taken before? A. No. Q. So this is the first time. A. First time. Q. Okay. Then I'm going to go through some ground rules. First, I'm going to ask you numerous |
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| | 5 | | 7 |
| 09:34:51 1 | Q. Okay. If you don't understand my question, | 09:36:43 1 | A. Yes. |
| 09:34:53 2 | please let me know. | 09:36:51 2 | Q. Now the purpose of this deposition is for |
| 09:34:54 3 | A. Yes. | 09:36:54 3 | the plaintiffs to understand the full scope of your |
| 09:34:55 4 | Q. Understand? Okay. | 09:36:56 4 | opinions. Do you understand that? |
| 09:34:57 5 | If you answer the question that I've asked | 09:36:58 5 | A. Yes. |
| 09:34:57 6 | I'm going to assume that you understood it. Fair? | 09:36:58 6 | Q. Okay. And in litigation this is our one |
| 09:35:00 7 | A. Yes. | 09:37:04 7 | time for us to ask you questions under oath and obtain |
| 09:35:05 | Q. Since this is your first time I'd like to | 09:37:09 | all the opinions you have with respect to general |
| 09:35:07 | remind you that there is a court reporter taking down | 09:37:11 9 | causation in this case. You understand that. |
| 09:35:09 10 | everything we say, and therefore wait until I finish | 09:37:13 10 | A. "General causation." |
| 09:35:12 11 | my question before you answer, and I'll wait while | 09:37:14 11 | Q. Yes. Let me Let me There's Forget |
| 09:35:15 12 | you're finishing your answer before I ask another | 09:37:18 12 | about |
| 09:35:17 13 | question. Fair? | 09:37:18 13 | This is the one time I have to ask you about |
| 09:35:18 14 | A. That's fair. | 09:37:20 14 | all your opinions so far in this case that you have |
| 09:35:19 15 | Q. Okay. | 09:37:23 15 | formulated. Do you understand that? |
| 09:35:19 16 | A. Could I just ask about the how certain | 09:37:24 16 | A. Opinions relevant to this case. |
| 09:35:22 17 | technical jargon would be handled with the court | 09:37:26 17 | Q. Yes. |
| 09:35:25 18 | reporter? Is it okay to spell these words out, or | 09:37:26 18 | A. Yes. |
| 09:35:28 19 | Q. If you want to spell it out, you can; | 09:37:27 19 | Q. Okay. As well as I have a right to |
| 09:35:30 20 | otherwise during a break she will ask us how to spell | 09:37:31 20 | understand the methodologies used by you to formulate |
| 09:35:33 21 | certain words if she doesn't know how to spell them. | 09:37:33 21 | your opinions. Do you understand that? |
| 09:35:36 22 | A. I understand. | 09:37:34 22 | A. Yes. |
| 09:35:38 23 | Q. First and foremost can we agree that during | 09:37:35 23 | Q. Okay. Now you have done you have done |
| 09:35:40 24 | your testimony today you will not be guessing about | 09:37:48 24 | research in the past; correct? |
| 09:35:44 25 | anything? Fair enough? | 09:37:50 25 | A. Yes. |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | | | |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 6 | | 8 |
| 09:35:45 | A. Fair enough. | 09:37:51 1 | Q. Okay. And you've used your technique, the |
| 09:35:46 2 | A. Fair enough.Q. Both sides don't want any guessing. We want | 09:37:56 2 | Q. Okay. And you've used your technique, the schlieren technique, which is S-C-H-L-I-E-R-E-N And |
| 09:35:46 2 09:35:48 3 | A. Fair enough. Q. Both sides don't want any guessing. We want reliable expert testimony. Do you understand that? | 09:37:56 2 09:38:01 3 | Q. Okay. And you've used your technique, the schlieren technique, which is S-C-H-L-I-E-R-E-N And that word will be used a lot so I'm spelling it now. |
| 09:35:46 2 09:35:48 3 09:35:50 4 | A. Fair enough. Q. Both sides don't want any guessing. We want reliable expert testimony. Do you understand that? A. I understand. | 09:37:56 2 09:38:01 3 09:38:04 4 | Q. Okay. And you've used your technique, the schlieren technique, which is S-C-H-L-I-E-R-E-N And that word will be used a lot so I'm spelling it now. THE REPORTER: Thank you. |
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| 09:35:46 2 09:35:48 3 09:35:50 4 09:35:51 5 09:35:55 6 | A. Fair enough. Q. Both sides don't want any guessing. We want reliable expert testimony. Do you understand that? A. I understand. Q. Okay. Now you understand that you've been designated as an expert in this case by the | 09:37:56 2 09:38:01 3 09:38:04 4 09:38:05 5 09:38:07 6 | Q. Okay. And you've used your technique, the schlieren technique, which is S-C-H-L-I-E-R-E-N And that word will be used a lot so I'm spelling it now. THE REPORTER: Thank you. Q. You've used the schlieren technique many times in the past; correct? |
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| 09:35:46 2 09:35:48 3 09:35:50 4 09:35:51 5 09:35:55 6 09:35:57 7 09:35:58 8 | A. Fair enough. Q. Both sides don't want any guessing. We want reliable expert testimony. Do you understand that? A. I understand. Q. Okay. Now you understand that you've been designated as an expert in this case by the defendants. A. (Nodding.) Yes. | 09:37:56 | Q. Okay. And you've used your technique, the schlieren technique, which is S-C-H-L-I-E-R-E-N And that word will be used a lot so I'm spelling it now. THE REPORTER: Thank you. Q. You've used the schlieren technique many times in the past; correct? A. For the last 50 years. Q. Okay. And you've written extensively on |
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| | CASE 0:15-md-02666-JNE-DTS Doc | . 823-8 | Filed 09/12/17 Page 5 of 90 |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | . 020 0 | Filed 09/12/17 Page 5 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 9 | | 11 |
| 09:38:56 1 | to image and better understand natural phenomena. | 09:41:35 | A. Patient-warming blankets, as I understand |
| 09:39:05 2 | Q. And would it be fair that before you perform | 09:41:36 2 | them, are medical devices that applied to a patient |
| 09:39:08 3 | any scientific research or study you have a | 09:41:40 3 | during surgery in order to keep the body from |
| 09:39:13 | hypothesis? | 09:41:43 4 | undergoing hypothermia, keep the body warm. |
| 09:39:14 5 | A. Well this needs some discussion, because in | 09:41:46 5 | Q. And you tested two patient-warming blankets |
| • | some circumstances you are investigating a phenomenon | • | in your study; correct? |
| _ | , | _ | A. I did. |
| | so your hypothesis would be this is what's happening, | • | |
| 09:39:30 | and then you would either your further work would | 09:41:50 | Q. One was the HotDog and one was the Bair |
| 09:39:35 | then either approve or deny that hypothesis. But in | 09:41:51 | Hugger; correct? |
| 09:39:40 10 | visualizing a flow it's not necessary to have a | 09:41:52 10 | A. Yes. |
| 09:39:44 11 | hypothesis about always necessary to have a | 09:41:52 11 | Q. And they're two patient-warming blankets but |
| 09:39:48 12 | hypothesis about what the flow is doing. It's only | 09:41:54 12 | just different designs; correct? |
| 09:39:52 13 | necessary to have the tools available to render an | 09:41:56 13 | A. Different principles. |
| 09:39:55 14 | image and or a video, and then to produce that and | 09:41:58 14 | Q. Okay. One uses conduction and one uses |
| 09:39:59 15 | observe the flow. Once you observe the flow is the | 09:42:01 15 | convection mainly; correct? |
| 09:40:04 16 | time to start developing developing hypothesis, it | 09:42:01 16 | A. Well one uses conduction and one uses forced |
| 09:40:07 17 | looks like this, or it looks like that kind of a | 09:42:06 17 | air; convection if you like, yes. |
| 09:40:10 18 | phenomenon. | 09:42:07 18 | Q. Okay. Forced air is |
| 09:40:11 19 | Q. Okay. So the hypothesis could come either | 09:42:07 19 | (Interruption by the reporter.) |
| 09:40:11 20 | before you observe the experimental data or after. | 09:42:07 20 | Q. Well forced air is convection; correct? |
| 09:40:16 21 | A. Correct. | 09:42:10 21 | A. Yes. |
| 09:40:16 21 | Q. Depending on the type of study. Fair? | 09:42:10 21 | Q. Okay. |
| 09:40:17 22 | A. Correct. | 09:42:11 22 | |
| 09:40:19 23 | _ | 09:42:11 23 | ,, |
| | Q. Okay. Was there a hypothesis in this case | | , |
| 09:40:22 25 | that you formulated or were told prior to performing | 09:42:14 25 | correct? |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL OUR FOT TO PROTECTIVE ORDER | | |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| _ | 10 | | 12 |
| 09:40:26 | 10 your work? | 09:42:16 1 | |
| 09:40:26 1 09:40:27 2 | your work? A. No. We The plan here was to use the | 09:42:16 1 09:42:18 2 | Same ultimate product purpose, different design; correct? |
| _ | 10 your work? | | Same ultimate product purpose, different |
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|---|--|--|--|
| 09:43:53 | laminar by scientific definition. So I want to answer your question that way in order to avoid confusion. Q. Okay. So in the world of engineering the term "laminar flow" as compared to "turbulent flow" is dependent on the Reynolds number; correct? A. Yes. Q. Okay. With respect to our discussions today you're going to use a different definition depending on the type of flow in the operating room or a clean room as compared to turbulent flow; correct? A. Well there's certainly turbulent flow present in an operating room and a clean room, but I'm just talking about the terminology that's used for | 09.46.21 1 09.46.24 2 09.46.26 3 09.46.28 4 09.46.31 5 09.46.32 6 09.46.33 7 09.46.35 8 09.46.35 9 09.46.38 10 09.46.38 11 09.46.39 12 09.46.41 13 | produce significant disruption of the flow from above. Q. So are you saying they do disrupt the downward flow? A. There is a layer of Q. "Yes" or "no," sir? MR. GOSS: Let him finish his Q. "Yes" or "no," then you can give an explanation. MR. GOSS: Let him finish his answer. Q. Okay. I want a "yes" or "no." MR. ASSAAD: Let's not get started, Peter. I'm talking about the production MR. GOSS: You're not going to bully |
| 09:44:34 14 09:44:38 15 09:44:40 16 09:44:43 17 09:44:45 18 09:44:48 19 | this idea of producing a downflow in which the streamlines are essentially straight. Q. What's the difference between an operating room that is a laminar flow and an operating room that's a unidirectional flow? A. A laminar flow | 09:46:43 14 09:46:45 15 09:46:46 16 09:46:47 17 09:46:48 18 09:46:48 19 | another retired Professor Emeritus. Let him answer the question. MR. ASSAAD: He's sitting in this He's sitting in this deposition, he needs to answer my questions. Q. "Yes" or "no"? |
| 09:44:50 20 09:44:52 21 09:44:55 22 09:44:58 23 09:44:58 24 09:45:00 25 | A laminar downflow in this case is a unidirectional flow in the downward direction. Q. Okay. So you they're synonymous? A. Not exactly. MR. GOSS: Object to form. A. You could have a unidirectional flow that's STIREWALT & ASSOCIATES | 09:46:49 20 09:47:01 21 09:47:03 22 09:47:05 23 09:47:05 24 09:47:09 25 | A. I need to hear your question repeated. (Record read by the reporter.) A. There's no yes-or-no answer to that question. It's not amenable to a "yes" or a "no." I can answer Q. So you have no opinion one way or the other STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 14 | | 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 16 |
| 09:45:02 1 09:45:03 2 09:45:06 3 09:45:09 4 | horizontal. Q. Okay. You can't have a laminar flow that's horizontal? A. Yes. But laminar in the sense of straight | 09:47:10 1 09:47:11 2 09:47:12 3 09:47:13 4 | with with A. Sir, Q a definite opinion. A what happens cannot be described by a |
| 09:45:13 5 09:45:19 6 09:45:25 7 09:45:25 8 09:45:27 9 | streamlines, not in the sense of no turbulence. Q. Okay. Have you ever designed an operating room? A. No, sir. Q. Have you ever done any studies in an | 09:47:16 5 09:47:18 6 09:47:19 7 09:47:21 8 09:47:22 9 | yes-or-no answer to that question. If you'll allow me, I'll explain what I mean. Q. That's all I need. If you can't answer "yes" or "no," that's fine. So the next question I have is: All your |
| 09:45:27 10 09:45:28 11 09:45:31 12 09:45:33 13 09:45:34 14 | operating room? A. No, sir. Q. You're a member of ASHRAE; correct? A. I am. Q. You're a member of ASME? | 09:47:24 10 09:47:26 11 09:47:26 12 09:47:28 13 09:47:36 14 | opinions are in your expert report; correct? A. Yes. Q. Which expert report are we talking about, the revised one, or the one submitted June 1st, 2017? A. Well my expert opinions were first submitted |
| 09:45:36 | A. I'm a fellow of ASME. Q. So the answer to my question is "yes"? A. Yes. Q. Okay. Now my understanding is that your main opinion in this case is that the Bair Hugger | 09:47:38 15 09:47:41 16 09:47:45 17 09:47:48 18 09:47:50 19 | June 17, and then there was a revision that corrected a couple of items. So they both have my expert opinion, but a couple of issues were I discovered were corrected. Q. What did you discover? |
| 09:45:47 20 09:45:52 21 09:46:01 22 09:46:07 23 | device does not disrupt the unidirectional airflow from above; correct? A. In my expert report we show images of experiments that were done with a unidirectional flow | 09:47:53 20 09:47:56 21 09:48:01 22 09:48:05 23 | A. Upon re-reading the report after a couple of weeks I discovered that the figure and the discussion associated with the downflow generator quoted an accuracy that was unrealistic based on the |
| 09:46:10 24 09:46:15 25 4 of 89 shee | from above, and we show Bair Hugger and HotDog patient-warming blankets. And neither of those two STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com Page 13 to | 09:48:07 24 09:48:09 25 0 16 of 352 | measurements, so I corrected it. The second one was that one figure in in STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com 07/24/2017 10:14:34 AM |

| CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 17 19 19 1 the report that showed flow around beneath the 10 10 11 12 13 14 15 16 17 17 19 18 19 19 19 10 10 10 11 11 11 11 |
|--|
| 1 the report that showed flow around beneath the generated 2 surgical table and around the feet, when I wrote the generated 3 report I was under the impression that the downflow 3 report I was under the impression that the downflow 4 was on when that experiment was done, but the logbook 5 suggests that that's not the case. This generated 6 enough question about that particular image that I 7 removed the image and the discussion thereof. 9 and the discussion regarding the effect of the Bair 9 and the discussion regarding the discussion that the downflow 9 and the drape because you were not sure, when you 90 conducted that study, whether or not the downflow 90 generator was on or off; is that correct? 90 conducted that study, whether or not the downflow 91 A. That particular issue. 90 conducted that study whether or not the downflow 90 conducted that study 90 conducted that study 90 conducted that study 90 conducted that study 90 conducted |
| 2 surgical table and around the feet, when I wrote the metals are port I was under the impression that the downflow mass on when that experiment was done, but the logbook suggests that that's not the case. This generated enough question about that particular image that I memoved the image and the discussion thereof. 2 |
| ossississississississississississississi |
| was on when that experiment was done, but the logbook suggests that that's not the case. This generated enough question about that particular image that I removed the image and the discussion thereof. So my understanding is you removed the image and the discussion regarding the effect of the Bair and the discussion regarding the effect of the Bair the drape because you were not sure, when you so generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? So Has a Conducted that study, whether or not the downflow generator was on or off; is that correct? |
| 5 suggests that that's not the case. This generated 6 enough question about that particular image that I 7 removed the image and the discussion thereof. 8 Q. So my understanding is you removed the image 9 and the discussion regarding the effect of the Bair 9 and the discussion regarding the effect of the Bair 9 48.45 10 Hugger at the below the drape, below the table of 9 9 48.55 11 the drape because you were not sure, when you 9 9 48.55 12 conducted that study, whether or not the downflow 9 9 48.55 13 generator was on or off; is that correct? 9 9 48.55 14 A. That particular issue. 9 9 48.55 15 Q. And that would be Dr. Elghobashi and Dan 9 8 Koenigshofer? A. That's right. 9 9 9 1 1 |
| 6 enough question about that particular image that I 6 enough question about that particular image that I 7 removed the image and the discussion thereof. 8 Q. So my understanding is you removed the image 9 and the discussion regarding the effect of the Bair 9 and the discussion regarding the effect of the Bair 9 48.4 10 Hugger at the below the drape, below the table of 9 55.10 9 10 the drape because you were not sure, when you 9 60.5 11 A. No. 9 60.5 12 Q. Are you aware of any opinion by the plaintiffs' experts 10 48.5 12 conducted that study, whether or not the downflow 9 60.5 12 Q. Are you aware of any opinions by any of the plaintiffs' experts 10 48.5 15 Q. Okay. 9 60.5 12 1 A. No. 9 7 10 60.5 1.0 1 A. No. 9 7 10 60.5 1.0 2 G 10 60.5 1.0 3 F 11 A. No. 12 Q. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 10 60.5 1.2 1 A. No. 10 60.5 1.3 1 B. No. 10 60.5 1.3 1 B. Q. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 10 60.5 1.3 1 B. Q. Are you aware of any opinions by any of the plaintiffs' experts that discuss the heat generated by plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the plaintiffs' experts that discuss the heat generated by the power units of |
| 7 removed the image and the discussion thereof. 9 8 Q. So my understanding is you removed the image and the discussion regarding the effect of the Bair 9 48.43 9 and the discussion regarding the effect of the Bair 9 48.47 10 Hugger at the below the drape, below the table of the drape because you were not sure, when you conducted that study, whether or not the downflow generator was on or off; is that correct? 9 48.58 11 A. That particular issue. 9 551.03 7 Q. Okay. Are you aware of any opinion by the plaintiffs' experts that compare the HotDog to the Bair Hugger? 9 551.03 10 Okay. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 9 551.03 10 Okay. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 9 551.03 10 Okay. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 9 551.03 10 Okay. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 9 551.03 10 Okay. Are you aware of any opinions by any of the plaintiffs' experts that discuss the heat generated by opinions by any of the opinions opinions opinions by any of the opinions |
| Q. So my understanding is you removed the image one of the Bair one of the Bai |
| 9 and the discussion regarding the effect of the Bair 09:48:47 10 Hugger at the below the drape, below the table of 10 Hugger at the below the drape, below the table of 11 the drape because you were not sure, when you 12 conducted that study, whether or not the downflow 13 generator was on or off; is that correct? 14 A. That particular issue. 15 Q. Okay. 16 A. In all other cases I was sure. 17 Q. When you say "all other cases," what do you 18 mean by "all other cases"? 18 A. Every other example illustrated by schlieren 19 Jaintiffs exper any of the plaintiffs' experts 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 10 09:51:08 10 that compare the HotDog to the Bair Hugger? 11 A. No. 12 Q. Are you aware of any opinions by any of the Opinion of the Plaintiffs' experts that discuss the heat generated by 12 plaintiffs' experts that discuss the heat generated by 13 the power units of the Bair Hugger compared to the 14 plaintiffs' experts that discuss the heat generated by 16 plaintiffs' experts that discuss the heat generated by 17 plaintiffs' experts that discuss the heat generated by 18 the power units of the Bair Hugger compared to the 19 plaintiffs' experts that used the schlieren 19 |
| hugger at the below the drape, below the table of the drape because you were not sure, when you conducted that study, whether or not the downflow generator was on or off; is that correct? O9:48:58 14 |
| the drape because you were not sure, when you conducted that study, whether or not the downflow generator was on or off; is that correct? 9:48:58 14 A. That particular issue. 9:48:58 15 Q. Okay. 9:49:00 16 A. In all other cases I was sure. 9:49:04 17 Q. When you say "all other cases," what do you mean by "all other cases"? 9:49:06 18 Every other example illustrated by schlieren 9:51:13 11 A. No. 9:51:16 12 Q. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 9:51:28 15 A. No. 9:51:28 15 Q. Are you aware of any opinions by any of the Q. Are you aware of any opinions by any of the plaintiffs' experts that discuss the heat generated by the power units of the Bair Hugger compared to the Postival 19 HotDog? |
| conducted that study, whether or not the downflow generator was on or off; is that correct? 99.48:58 14 A. That particular issue. 99.51:18 12 Q. Are you aware of any opinions by any of the plaintiffs' experts that used the schlieren technique in evaluating Bair Hugger? 99.48:58 15 Q. Okay. 99.51:28 15 A. No. 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:28 15 A. No. 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:28 15 A. No. 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:28 15 A. No. 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:32 15 A. No. 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:32 15 A. No. 99.51:31 16 Q. Are you aware of any opinions by any of the in evaluating Bair Hugger? 99.51:32 16 P. No. |
| ogenerator was on or off; is that correct? ogenerator was openerator was openerated to explain tiffs' experts that used the schlieren technique in evaluating Bair Hugger? Ogenerator was openerated to explain tiffs' experts that used the schlieren technique in evaluating Bair Hugger? Ogenerator was openerated to explain tiffs' experts that used the schlieren technique in evaluating Bair Hugger? Ogenerator was openerated to explain tiffs' experts that used the schlieren technique in evaluating Bair Hugger? Ogenerator was openerated to explain tiffs' experts that used the schlieren technique in evaluating Bair Hugger? Ogenerato |
| 09:48:58 14 A. That particular issue. 09:48:58 15 Q. Okay. 09:49:00 16 A. In all other cases I was sure. 09:49:04 17 Q. When you say "all other cases," what do you 09:49:06 18 mean by "all other cases"? 09:51:26 14 in evaluating Bair Hugger? 09:51:28 15 A. No. 09:51:31 16 Q. Are you aware of any opinions by any of the 09:51:33 17 plaintiffs' experts that discuss the heat generated by 09:51:37 18 the power units of the Bair Hugger compared to the 09:51:40 19 HotDog? |
| 09:48:58 15 Q. Okay. 09:49:00 16 A. In all other cases I was sure. 09:49:04 17 Q. When you say "all other cases," what do you 09:49:06 18 mean by "all other cases"? 09:49:07 19 A. Every other example illustrated by schlieren 09:49:07 19 HotDog? 09:51:28 15 A. No. 09:51:31 16 Q. Are you aware of any opinions by any of the 09:51:37 18 the power units of the Bair Hugger compared to the 09:51:40 19 HotDog? |
| O9:48:58 15 Q. Okay. O9:49:00 16 A. In all other cases I was sure. O9:49:04 17 Q. When you say "all other cases," what do you O9:49:06 18 mean by "all other cases"? O9:49:07 19 A. Every other example illustrated by schlieren O9:49:07 19 A. Every other example illustrated by schlieren O9:51:28 15 A. No. O9:51:28 16 Q. Are you aware of any opinions by any of the O9:51:37 18 the power units of the Bair Hugger compared to the O9:51:49 19 HotDog? |
| O9:49:00 16 O9:49:04 17 O9:49:06 18 O9:49:06 18 O9:49:07 19 A. In all other cases I was sure. O9:51:31 16 O9:51:31 16 O9:51:31 16 O9:51:31 16 O9:51:31 17 O9:51:31 17 O9:51:31 17 O9:51:32 17 O9:51:33 17 O9:51:37 18 O9:51:37 |
| 09:49:04 17 Q. When you say "all other cases," what do you 09:49:06 18 mean by "all other cases"? 09:51:37 18 the power units of the Bair Hugger compared to the 09:49:07 19 A. Every other example illustrated by schlieren 09:51:40 19 HotDog? |
| og.49:06 18 mean by "all other cases"? og.49:07 19 A. Every other example illustrated by schlieren og.49:08 18 the power units of the Bair Hugger compared to the og.51:37 19 HotDog? |
| 09:49:07 19 A. Every other example illustrated by schlieren 09:51:40 19 HotDog? |
| |
| 09:49:11 20 images in the report. It was only 09:51:49 20 A. No. |
| |
| |
| |
| 09:49:21 23 particular person? 09:51:56 23 three issues, the HotDog versus the Bair Hugger, |
| 09:49:22 24 A. No, sir. |
| 09:49:22 25 Q. Okay. Are there still pictures of a 09:52:03 25 heat generated by them by the Bair Hugger and |
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| 18 20 |
| 09:49:25 1 schlieren image with the downflow generator on of the 09:52:06 1 HotDog are all original opinions by you and not |
| 09:49:30 2 feet area or the lower area? 09:52:08 2 rebuttal opinions? |
| 09:49:35 3 A. No still pictures. 09:52:10 3 MR. GOSS: Object to form. |
| 09:49:36 4 Q. Okay. So sitting 09:52:11 4 A. I don't know what a rebuttal opinion is. |
| 09:49:36 5 (Interruption by the reporter.) 09:52:15 5 Q. Well you agree that no one of plaintiffs' |
| 09:49:36 G Q. So my understanding is is that you have no 09:52:20 6 experts offered any opinions on those issues that |
| 09:49:38 7 evidence or data with respect to the effect of the 09:52:25 7 you're aware of. |
| 09:49:44 8 Bair Hugger device with the downflow generator off at 09:52:26 8 A. That I'm aware of, no. |
| 9 at the feet area of a person. 09.52:37 9 Q. It's my understanding you charged a flat fee |
| 09:49:53 10 MR. GOSS: Did you mean to say "on," the 09:52:38 10 of \$70,000 to perform your testing and report? |
| 09:49:55 11 downflow generator on? 09:52:42 11 A. That's not correct. I This work was done |
| 09:49:55 12 MR. ASSAAD: Yes. 09:52:45 12 by a small business, and the flat fee was charged by |
| 09:49:57 13 [Outside interruption.] 09:52:48 13 the business, not me personally. |
| 09:49:58 14 Q. Let me Let me strike that question. 09:52:51 14 Q. Okay. Let me rephrase that. |
| 99.50:00 15 My understanding is that you have no 99.52:53 15 You work for a company called FloViz; |
| 16 evidence with re with the with respect to the 09.52.55 16 correct? |
| 99:50:06 17 effect of the Bair Hugger with the downflow generator 99:52:56 17 A. FloViz, Incorporated. |
| 18 on at at below the operating room table. 09.50.09 18 Q. Okay. |
| 19 9:50:13 19 A. No schlieren evidence, no. 19:52:57 19 A. It's a very small business. |
| 99.50.15 20 Q. Okay. So the only evidence you have is the 99.50.15 Q. Is it a small business? |
| 95.53.07 21 temperature testing. 95.53.01 21 A. Very small business. |
| 09:53:01 21 A. Very small business. 09:53:02 22 Q. How small? |
| |
| |
| |
| 09:50:30 25 report, that you want to make right now? 09:53:05 25 company? |
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|--|---|--|---|--|
| 1 | ^ | 21 Lori Dreibelbis. | 09:55:09 | 23 |
| 09:53:06 1 | Α. | THE WITNESS: Should I spell that? | 00.00.00 | was me. Q. Okay. When you say |
| 09:53:08 2 09:53:10 3 | | THE REPORTER: No. | 09:55:10 2 09:55:12 3 | When you say a half a day, we're talking |
| 09:53:10 3 | | THE WITNESS: Okay. | 09:55:12 4 | about four hours a day? |
| 09:53:11 5 | Q. | And what is your position? | 09:55:17 5 | A. I think it was rather longer than that, |
| 09:53:12 | - | I'm scientific and re | 09:55:18 6 | probably six hours. |
| 09:53:14 7 | Λ. | My actual position is director of research. | 09:55:18 7 | Q. Six hours a day. So |
| 09:53:10 | Q. | And what's your compensation there? | 09:55:21 | A. Now these were the actual testing. So there |
| 09:53:23 | Д. А. | Do you mean in general, or in this case? | 09:55:23 | was much more time spent in putting together |
| 09:53:26 10 | Q. | Do you get a percentage of this case, or do | 09:55:30 10 | designing apparatus, putting together apparatus and so |
| 09:53:28 11 | - | just a salary? | 09:55:32 11 | forth, and I'm not able to give you an estimate of how |
| 09:53:31 12 | | Neither, actually. I expect to be paid for | 09:55:36 12 | many hours were spent there. |
| 09:53:35 13 | | ult or my fee for testimony, but it has yet | 09:55:37 13 | Q. Okay. And were you there every single day |
| 09:53:41 14 | - | cablished whether there will be any other | 09:55:38 14 | testing was done? |
| 09:53:44 15 | compens | | 09:55:39 15 | A. I was. |
| 09:53:45 16 | | So it's my understanding that 3M has paid | 09:55:40 16 | Q. Okay. So nine days, six hours a day, so |
| 09:53:49 17 | | ncorporated \$70,000 for the study; correct? | 09:55:45 17 | looking about 36 hours of testing? |
| 09:53:54 18 | A. | That was the agreed-upon rate. | 09:55:48 18 | A. That's just the testing, yes. |
| 09:53:57 19 | Q. | Okay. Has 3M paid \$70,000? | 09:55:50 19 | Q. Okay. And how much time would you |
| 09:53:57 | Q. A. | There are still outstanding invoices. | 09:55:50 19 | approximate in actually setting up the apparatus and |
| 09:54:03 21 | Q. | Okay. Is that Are you aware of Are | 09:55:59 21 | doing what you just discussed? |
| 09:54:04 22 | α. | Do you deal with that part of the business? | 09:56:00 22 | A. That would be a guess, and I'm not going to |
| 09:54:07 23 | Α. | I try not to. I'm the scientific person. | 09:56:03 23 | quess. |
| 09:54:09 24 | | Okay. And out of that \$70,000 it's my | 09:56:04 24 | Q. More than 10 hours? |
| 09:54:13 25 | | anding that you don't get paid any of that | 09:56:06 25 | A. Certainly. |
| 09.34.13 | unacista | STIREWALT & ASSOCIATES | 09.50.00 | STIREWALT & ASSOCIATES |
| | 1 | I-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | | 22 | | 24 |
| 09:54:15 | money? | | 09:56:07 | Q. Huh? |
| 09:54:16 2 | Á. | Well I don't know yet. It hasn't been | 09:56:08 2 | A. Certainly more than |
| 09:54:18 3 | establish | ed. | 09:56:09 | Q. More than 20 hours? |
| 09:54:19 4 | Q. | Who decides | 09:56:10 4 | A. I think you're asking me to guess. |
| 09:54:20 5 | Α. | We haven't even | 09:56:12 5 | Q. I'm asking you to guess in this situation. |
| 09:54:22 | | Half of the \$70,000 is not yet received, and | 09:56:14 | Give me an approximation. |
| 09:54:26 7 | it will be | decided by the company what how much | 09:56:15 7 | |
| 09:54:29 | | | 09.30.13 | A. You told me just a few minutes ago not to |
| U9:54:29 O | will be p | aid to individuals. | 09:56:17 | A. You told me just a few minutes ago not to guess. |
| • | | | | |
| 09:54:31 | Q. | aid to individuals. | 09:56:17 | guess. |
| 09:54:31 9 09:54:32 10 | Q. on on | aid to individuals. Well how many hours did you spend yourself | 09:56:17 8 09:56:18 9 | guess. Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about |
| 09:54:31 9 09:54:32 10 09:54:35 11 | Q. on on | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? | 09:56:17 8 09:56:18 9 09:56:20 10 | guess. Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 | Q. on on A. | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 | guess. Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your |
| 09:54:31 | Q. on on A. Q. | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 | guess. Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. |
| 09:54:31 | Q. on on A. Q. A. | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:29 13 | guess. Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 | Q. on on A. Q. A. to guess Q. | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:29 13 09:56:30 14 | guess. Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 | Q. on on A. Q. A. to guess Q. A. | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:29 13 09:56:30 14 09:56:34 15 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:47 17 | Q. on on A. Q. A. to guess Q. A. based or | well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be | 09:56:17 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:47 17 09:54:50 18 | Q. on on A. Q. A. to guess Q. A. based or copy of, | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a | 09:56:17 | guess. Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:47 17 09:54:50 18 09:54:53 19 | Q. on on A. Q. A. to guess Q. A. based or copy of, | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a and you will see there that we worked a | 09:56:17 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make an estimate. But right off the top of my head now, I |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:47 17 09:54:50 18 09:54:56 20 | Q. on on A. Q. A. to guess Q. A. based or copy of, number | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a and you will see there that we worked a of days, and I would make the approxi | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:29 13 09:56:30 14 09:56:34 15 09:56:37 16 09:56:40 17 09:56:44 18 09:56:48 19 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make an estimate. But right off the top of my head now, I had not thought about how many hours, I was not |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:45 18 09:54:50 18 09:54:56 20 09:54:57 21 | Q. on on A. Q. A. to guess Q. A. based or copy of, number Q. | well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a and you will see there that we worked a of days, and I would make the approxi Nine days to be exact; correct? | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:30 14 09:56:34 15 09:56:37 16 09:56:40 17 09:56:41 18 09:56:48 19 09:56:50 20 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make an estimate. But right off the top of my head now, I had not thought about how many hours, I was not keeping track of hours, it was the idea was to get |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:50 18 09:54:50 18 09:54:50 20 09:54:57 21 09:54:58 22 | Q. on on A. Q. A. to guess Q. A. based or copy of, number Q. A. Q. | well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a and you will see there that we worked a of days, and I would make the approxi Nine days to be exact; correct? Nine days. | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:29 13 09:56:30 14 09:56:34 15 09:56:37 16 09:56:40 17 09:56:41 18 09:56:48 19 09:56:50 20 09:56:52 21 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make an estimate. But right off the top of my head now, I had not thought about how many hours, I was not keeping track of hours, it was the idea was to get the job done. |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:50 18 09:54:50 18 09:54:50 20 09:54:56 20 09:54:58 22 09:54:58 23 | Q. on on A. Q. A. to guess Q. A. based or copy of, number Q. A. Q. A. | aid to individuals. Well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a and you will see there that we worked a of days, and I would make the approxi— Nine days to be exact; correct? Nine days. Okay. | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:20 13 09:56:30 14 09:56:37 16 09:56:37 16 09:56:40 17 09:56:44 18 09:56:48 19 09:56:50 20 09:56:52 21 09:56:53 22 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make an estimate. But right off the top of my head now, I had not thought about how many hours, I was not keeping track of hours, it was the idea was to get the job done. Q. Do you work for free? |
| 09:54:31 9 09:54:32 10 09:54:35 11 09:54:37 12 09:54:40 13 09:54:42 14 09:54:43 15 09:54:45 16 09:54:45 19 09:54:50 18 09:54:50 20 09:54:56 20 09:54:58 22 09:54:58 23 09:55:01 24 | Q. on on A. Q. A. to guess Q. A. based or copy of, number Q. A. Q. A. is all mo | well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a and you will see there that we worked a of days, and I would make the approxi— Nine days to be exact; correct? Nine days. Okay. And we worked typically a half a day, which | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:29 13 09:56:30 14 09:56:34 15 09:56:34 15 09:56:40 17 09:56:41 18 09:56:40 17 09:56:40 19 09:56:50 20 09:56:50 21 09:56:53 22 09:56:56 23 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make an estimate. But right off the top of my head now, I had not thought about how many hours, I was not keeping track of hours, it was the idea was to get the job done. Q. Do you work for free? MR. GOSS: Object to form. |
| _ | Q. on on A. Q. A. to guess Q. A. based or copy of, number Q. A. Q. A. is all mo | well how many hours did you spend yourself performing the tests in this case? I didn't keep a count of hours. Can you give me an approximation? It would be a guess, and you've told me not. Well this time I'm asking you to guess. All right. So the approximation would be a the experimental logbook which you have a and you will see there that we worked a of days, and I would make the approxi— Nine days to be exact; correct? Nine days. Okay. And we worked typically a half a day, which rining or all afternoon, so four and a half | 09:56:17 8 09:56:18 9 09:56:20 10 09:56:22 11 09:56:24 12 09:56:29 13 09:56:30 14 09:56:34 15 09:56:34 17 09:56:40 17 09:56:41 18 09:56:40 17 09:56:40 20 09:56:50 20 09:56:50 21 09:56:50 22 09:56:56 23 09:56:57 24 | Q. When it comes to your scientific opinions I don't want you to guess. When I'm asking you about how many hours you spent working on a study that your company charged \$70,000, I request an approximation. MR. GOSS: You can answer if you if you have an understanding of how much time was spent. A. The only thing I could do would be to sit down and go back over the process in my mind, spend some time to make some notes about it and try to make an estimate. But right off the top of my head now, I had not thought about how many hours, I was not keeping track of hours, it was the idea was to get the job done. Q. Do you work for free? MR. GOSS: Object to form. Q. For FloViz? |

| o9:57:06 1 reimbursement for some thir reimbursement for other thir reimbursement for other thir o9:57:10 3 Q. Such as? O9:57:13 4 A. Well such as I'm consulting fee for testimony | ngs. | 9:59:58 1 9:59:58 2 | Filed 09/12/17 Page 9 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 27 A. No. Q. What's his position? |
|---|--------------------------------|--------------------------------------|---|
| reimbursement for other thing 3 Q. Such as? 4 A. Well such as I'm consulting fee for testimony | ngs I do, and don't get og. | • | A. No. |
| reimbursement for other thing 3 Q. Such as? 4 A. Well such as I'm consulting fee for testimony | ngs. | • | |
| 09:57:10 3 Q. Such as? 09:57:13 4 A. Well such as I'm 09:57:16 5 consulting fee for testimony | _ | | 👊 - WINGLOINO PUOLUUII: |
| 09:57:16 5 consulting fee for testimony | | 0:00:00 3 | A. Insofar as this project was concerned he |
| 09:57:16 5 consulting fee for testimony | I'll be paid a | 0:00:03 4 | acted as a technician. |
| | | 0:00:05 5 | Q. With the company what's his position? |
| , 2 — | d the entire \$600 an hour | 0:00:06 | A. I don't know that he has a position with the |
| 09:57:22 7 | 10 | 0:00:08 7 | company. |
| 09:57:22 8 A. Yes. | 10. | 0:00:09 | Q. Okay. Does Lori Dreibelbis own 100 percent |
| 09:57:23 9 Q. for your testimor | ny? 10. | 0:00:12 | of the company? |
| 09:57:23 10 A. Yes. | 10. | 0:00:13 10 | A. As far as I know, yes. |
| 09:57:24 11 Q. What about for the | work you do for FloViz on 10. | 0:00:14 11 | Q. How long you been working for the company? |
| 09:57:26 12 this study? How is your com | npensation? 10 | 0:00:16 12 | A. The company was established approximately |
| 09:57:29 13 A. Well that will be ch | arged through FloViz, 10 | 0:00:19 13 | two years ago, and I began to work with them then. |
| 09:57:31 14 everything will be, but the co | ompensation through | 0:00:23 14 | Q. So you started with the company when the |
| 09:57:34 15 FloViz is more complicated. | I've been paid on some | 0:00:24 15 | company was established? |
| 09:57:38 16 things, and on other things I | | 0:00:25 16 | A. Yep. |
| 09:57:42 17 It's a small business, it's v | <u> </u> | 0:00:26 17 | Q. Okay. |
| 09:57:47 18 therefore I sometimes donat | • | 0:00:30 18 | A. And I should point out, to be completely |
| 09:57:50 19 Q. Do you own any sh | | 0:00:32 19 | accurate, that the name FloViz, Incorporated was |
| 09:57:52 20 A. It's privately held. | | 0:00:36 20 | established by me many years ago in the 1980s just |
| 09:57:53 21 Q. Do you own any pe | | 0:00:41 21 | myself, and it was pretty much dormant for the entire |
| 09:57:55 22 A. No. | | 0:00:45 22 | period from then until 2015 when I retired. I then |
| 09:57:56 23 Q. You own zero perce | | 0:00:53 23 | transferred that to Lori Dreibelbis because I'm not |
| 09:57:58 24 A. Zero percent. | | 0:00:56 24 | interested in running a company, she was. |
| | | 0:00:58 25 | Q. What was your |
| STIREWALT & AS | | | STIREWALT & ASSOCIATES |
| 1-800-553-1953 info@ | CT TO PROTECTIVE ORDER | | 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| CONFIDENTIAL - SOBJE | 26 | | 28 |
| 09:58:02 1 anyone at FloViz? | | 0:01:00 | What was your compensation for transferring |
| 09:58:04 2 A. Working relationshi | | 0:01:02 | the name? |
| 09:58:06 3 relationship. | | 0:01:02 | A. One dollar. |
| 09:58:46 4 Q. So it's my understa | anding that there is a | 0:01:07 4 | Q. Prior to the 3M project I'm going to call |
| 09:58:48 5 possibility out of the \$70,000 | O that FloViz is | 0:01:10 5 | this the 3M project what other projects did you |
| 09:58:51 6 receiving from 3M in this cas | se you might get paid zero 10. | 0:01:12 | work for with FloViz? |
| 09:58:55 7 dollars from that; is that cor | rect? | 0:01:15 7 | A. There were several projects. I don't know |
| 09:59:01 8 A. I don't know. I exp | pect to be paid | 0:01:19 | How do you wish me to identify these? |
| 09:59:04 9 something, but we've not dis | scussed an actual amount. 10 | 0:01:20 | Q. When you say "several," more than five? |
| 09:59:07 10 Q. Do you have a cont | tract with FloViz, Inc.? | 0:01:25 10 | MR. GOSS: And I guess I would ask, are you |
| 09:59:09 11 A. No. | | 0:01:27 11 | talking about since 2015 when he sold the company to |
| | , , , | 0:01:32 12 | Lori, or going back to when he first started the |
| 09:59:20 13 I mean, is there a possibil | , , | 0:01:36 13 | company? |
| o9:59:22 14 get paid anything out of the | | 0:01:36 14 | Q. Since he went started working for there |
| 09:59:24 15 A. Possible. | | 0:01:39 15 | two years ago. |
| 09:59:28 16 Q. Who would I need to | - | 0:01:40 16 | A. All right. So what information do you want |
| o9:59:30 17 your compensation with resp | · - | 0:01:44 17 | about these projects? |
| 09:59:36 18 A. Lori Dreibelbis is th | - | 0:01:45 18 | Q. Give me the names of the Give me the |
| 09:59:37 19 company. | | 0:01:48 19 | names and your clients. |
| 09:59:40 Q. Did she work on th | | 0:01:49 20 | A. In one of those cases I've been instructed |
| 09:59:42 21 A. Yes. | | 0:01:52 21 | not to name the source of the funding. I can tell you |
| 09:59:52 Q. And I guess she is | • | 0:01:56 22 | what the project was about. |
| 09:59:54 23 Dreibelbis? | | 0:01:57 23 | Q. What was the project? |
| 09:59:55 24 A. She is. | | 0:01:58 24 | A. The project had to do with schlieren imaging |
| 09:59:56 25 Q. Is he vice president | 10. | 0:02:01 25 | of leaks of natural gas. |
| - | COCIATEC | | |
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| | CC | CASE 0:15-md-02666-JNE-DTS Doc NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | : 823-8 | Filed 0 | 9/ 12/17 Page 10 of 90 NFIDENTIAL - SUBJECT TO PROTECTIVE ORDEF |
|--|--|---|---|---|---|
| | | 29 | | | 31 |
| 10:02:04 | Q. | What's another project you worked on? | 10:04:07 | Α. | I think that's all we received from 3M. |
| 10:02:06 2 | A. | The rest were consulting issues on SBIRs. | 10:04:09 2 | Q. | Okay. Did they give you any surgical |
| 10:02:11 3 | SBIR is | a Small Business Independent Research project | 10:04:12 3 | drapes? | , , , , , |
| 10:02:15 4 | | npanies that were working on abrasive blasting, | 10:04:13 4 | A. | Surgical drapes, you're right. I forgot |
| 10:02:20 5 | | es called Figure Engineering, and I have to | 10:04:16 5 | that. | |
| 10:02:24 6 | | noment, IFOS Incorporated, which is a company | 10:04:16 | Q. | How many surgical drapes did they give you? |
| 10:02:32 | | s fiber optics. | 10:04:19 7 | Α. | Less than five. Less than five sets. |
| • | | And those were consulting projects? | 10:04:19 | Q. | Did you give |
| • | | Those were basically consulting, but they | 10:04:25 | Q. | And what kind of sets were they? |
| 40 | | ndled through FloViz, Incorporated. | 10:04:25 | ٨ | I don't know what kind of sets. I don't |
| | | | | | |
| 10:02:41 11 | | Okay. And so would it be fair that the only | 10:04:34 11 | | nd that, what you're asking for. |
| 10:02:45 12 | _ | n testing you've done was for the leaks, | 10:04:37 12 | | Well were they a surgical drape set for a |
| 10:02:47 13 | Α. | Natural gas leak project. | 10:04:42 13 | | g a neurosurgery or |
| 10:02:48 14 | Q. | natural gas leaks? | 10:04:43 14 | | Oh, all right. Hip and knee surgery, if I |
| 10:02:50 15 | Α. | In the In the last two years, yes. | 10:04:46 15 | recall. | |
| 10:02:52 16 | Q. | Okay. Does FloViz, Incorporated own | 10:04:46 16 | Q. | And it said that on it? |
| 10:02:57 17 | | n mirrors, or do you rent them? | 10:04:48 17 | Α. | I'm not sure what it said on the box. |
| 10:02:59 18 | | We own schlieren mirrors. | 10:04:50 18 | Q. | Were they 3M drapes? |
| 10:03:00 19 | | Okay. So all tho all the equipment you | 10:04:54 19 | A. | I'm not sure who the manufacturer of the |
| 10:03:01 20 | | this case was owned by FloViz, with respect | 10:04:56 20 | drapes is | |
| 10:03:01 21 | A. | All the equipment | 10:04:57 21 | Q. | Did you test the drapes in any way? |
| 10:03:08 22 | Q. | to the schlieren stuff. | 10:04:59 22 | Α. | We used the drapes in the |
| 10:03:09 23 | A. | Yes. All the schlieren equipment. | 10:04:59 23 | Q. | Did you test the drapes? |
| 10:03:11 24 | Q. | And the camera. | 10:05:01 24 | Α. | We did not test the drapes. |
| 10:03:13 25 | A. | And the camera. | 10:05:02 25 | Q. | Okay. Did you test the |
| | | STIREWALT & ASSOCIATES | | | STIREWALT & ASSOCIATES |
| | | 1-800-553-1953 info@stirewalt.com | | 1 | -800-553-1953 info@stirewalt.com |
| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDEF |
| | _ | 30 | | | 32 |
| 10:03:14 | | Okay. I assume the Bair Hugger was given to | 10:05:04 | | Did you test the drapes in any way or do any |
| 10:03:18 2 | you by 3 | | 10:05:06 2 | | ons with respect to heat conduction or |
| 10:03:19 3 | | Yes. | 10:05:08 | | or not they're permeable or not? |
| 10:03:20 4 | Q. | Okay. And that was a Bair Hugger 775? | 10:05:11 4 | Α. | Did not. |
| 10:03:24 5 | A. | 522 I believe. | 10:05:11 5 | Q. | So you've done no testing on the drapes; |
| 10:03:25 6 | Q. | I'm talking about the blower. | 10:05:13 6 | correct? | |
| 10:03:27 7 | Α. | | | | |
| 10:03:29 | | 775 is the blower. | 10:05:14 7 | | We've done testing that used the drapes. |
| | Q. | 775 is the blower. And the blanket was the 522? | 10:05:14 7 10:05:16 8 | | We've done testing that used the drapes. That wasn't my question, sir. |
| • | Q. A. | | | A. | |
| 10:03:31 | | And the blanket was the 522? | 10:05:16 | A. Q. | That wasn't my question, sir. |
| 10:03:31 9 10:03:32 10 | A. | And the blanket was the 522? Yes. | 10:05:16 8 10:05:18 9 | A. Q. | That wasn't my question, sir. You did no testing |
| 10:03:31 9 10:03:32 10 10:03:33 11 | A. Q. | And the blanket was the 522? Yes. How many blankets did you receive? I don't know the exact number. Several | 10:05:16 8 10:05:18 9 10:05:19 10 | A. Q. | That wasn't my question, sir. You did no testing I did no testing on the |
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| 10:03:31 9 10:03:32 10 10:03:33 11 10:03:35 12 10:03:35 13 | A. Q. A. blankets | And the blanket was the 522? Yes. How many blankets did you receive? I don't know the exact number. Several | 10:05:16 8 10:05:18 9 10:05:19 10 10:05:21 11 10:05:20 12 | A. Q. A. Q. A. Q. | That wasn't my question, sir. You did no testing I did no testing on the on the drapes. Okay individual drapes. No. |
| 10:03:31 9 10:03:32 10 10:03:33 11 10:03:35 12 10:03:35 13 10:03:36 14 | A. Q. A. blankets Q. | And the blanket was the 522? Yes. How many blankets did you receive? I don't know the exact number. Several . More than 10? | 10:05:16 8 10:05:18 9 10:05:19 10 10:05:21 11 10:05:20 12 10:05:23 13 | A. Q. A. Q. A. Q. | That wasn't my question, sir. You did no testing I did no testing on the on the drapes. Okay individual drapes. No. So just so it's clear for the record, you |
| 10:03:31 9 10:03:32 10 10:03:33 11 10:03:35 12 10:03:35 13 10:03:36 14 10:03:37 15 | A. Q. A. blankets Q. A. | And the blanket was the 522? Yes. How many blankets did you receive? I don't know the exact number. Several . More than 10? Less than 10. | 10:05:16 8 10:05:18 9 10:05:19 10 10:05:21 11 10:05:20 12 10:05:23 13 10:05:25 14 | A. Q. A. Q. A. Q. | That wasn't my question, sir. You did no testing I did no testing on the on the drapes. Okay individual drapes. No. So just so it's clear for the record, you ne no testing on the drapes; correct? |
| 10:03:31 9 10:03:32 10 10:03:33 11 10:03:35 12 10:03:35 13 10:03:36 14 10:03:37 15 10:03:41 16 | A. Q. A. blankets Q. A. Q. | And the blanket was the 522? Yes. How many blankets did you receive? I don't know the exact number. Several . More than 10? Less than 10. More than 5? | 10:05:16 8 10:05:18 9 10:05:19 10 10:05:21 11 10:05:20 12 10:05:23 13 10:05:25 14 10:05:27 15 | A. Q. A. Q. have dor A. Q. | That wasn't my question, sir. You did no testing I did no testing on the on the drapes. Okay individual drapes. No. So just so it's clear for the record, you ne no testing on the drapes; correct? That is correct. |
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| 10:03:31 9 10:03:32 10 10:03:33 11 10:03:35 12 10:03:35 13 10:03:36 14 10:03:37 15 10:03:41 16 10:03:42 17 10:03:44 18 10:03:49 19 | A. Q. A. Q. A. Q. A. Q. A. Q. | And the blanket was the 522? Yes. How many blankets did you receive? I don't know the exact number. Several . More than 10? Less than 10. More than 5? I don't know. Did any of them break when in use? No. Any other equipment given to you by 3M? | 10:05:16 8 10:05:18 9 10:05:19 10 10:05:21 11 10:05:22 12 10:05:23 13 10:05:25 14 10:05:25 15 10:05:28 16 10:05:36 18 10:05:37 19 | A. Q. A. Q. have don A. Q. studies i A. Q. | That wasn't my question, sir. You did no testing I did no testing on the on the drapes. Okay. individual drapes. No. So just so it's clear for the record, you ne no testing on the drapes; correct? That is correct. Okay. You've performed many scientific in your career; correct? I have. And you've written many peer-reviewed |
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| 10:03:31 9 10:03:32 10 10:03:35 12 10:03:35 13 10:03:36 14 10:03:37 15 10:03:41 16 10:03:42 17 10:03:44 18 | A. Q. A. blankets Q. A. Q. A. Q. A. electroca blanket. Q. A. Q. | And the blanket was the 522? Yes. How many blankets did you receive? I don't know the exact number. Several . More than 10? Less than 10. More than 5? I don't know. Did any of them break when in use? No. Any other equipment given to you by 3M? There was the loan of equipment, an autery device. 3M also provided a HotDog Excuse me? A HotDog blanket. | 10:05:16 8 10:05:18 9 10:05:19 10 10:05:21 11 10:05:22 12 10:05:23 13 10:05:25 14 10:05:27 15 10:05:28 16 10:05:35 17 10:05:36 18 10:05:37 19 10:05:39 20 10:05:39 21 10:05:41 22 10:05:43 23 10:05:51 24 | A. Q. A. Q. have don A. Q. studies i A. Q. articles; A. Q. study is A. studies, | That wasn't my question, sir. You did no testing I did no testing on the on the drapes. Okay individual drapes. No. So just so it's clear for the record, you he no testing on the drapes; correct? That is correct. Okay. You've performed many scientific in your career; correct? I have. And you've written many peer-reviewed correct? I have. Would you agree with me that if a scientific into reproducible, it's not reliable? Reproducibility is a tenet of scientific |

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|---|--|--|---|
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 020 0 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 33 | | 35 |
| 10:05:56 | Q. Okay. So you agree with this ter with | 10:08:09 | Q. Okay. |
| 10:06:00 | this phrase: If a scientific study is not | 10:08:09 2 | A. Does not necessarily have to be written down |
| 10:06:03 3 | reproducible, it is not reliable. Correct? | 10:08:11 3 | on paper. Q. I never said it had to be written down. |
| 10:06:07 4 | A. I'll agree with that.Q. In fact, during the peer-review process if | 10:08:13 4 10:08:15 5 | My question to you is that you had a test |
| 10:06:11 5 | the reviewers do not understand the methodology they | 10:08:15 6 | plan. |
| 10:06:30 7 | will usually send it back for clarification from the | 10:08:17 7 | A. I had a test plan. |
| 10:06:34 | author; correct? | 10:08:19 | Q. And it's not written down anywhere; correct? |
| 10:06:37 | A. That's one thing that can happen, yes. | 10:08:21 | MR. GOSS: Object to form. |
| 10:06:39 10 | Q. I understand. But if the if the | 10:08:22 10 | Q. Is it written down, "yes" or "no"? Simple |
| 10:06:41 11 | reviewers do not understand the methodology or if it's | 10:08:24 11 | question. |
| 10:06:43 12 | unclear, they will most likely send it back to the | 10:08:24 12 | A. It's embodied in my expert report. |
| 10:06:45 13 | author for clarification and to edit the manuscript; | 10:08:27 13 | Q. Okay. Is it written down in anything else |
| 10:06:49 14 | correct? | 10:08:29 14 | besides your expert report? |
| 10:06:50 15 | A. At the very least it would go back for | 10:08:30 15 | A. No. |
| 10:06:52 16 | clarification. | 10:08:30 16 | Q. Okay. And your expert report came after you |
| 10:06:52 17 | Q. Okay. Because methodology is very | 10:08:33 17 | conducted the tests; correct? |
| 10:06:53 18 | important; correct? | 10:08:35 18 | A. Correct. |
| 10:06:55 19 | A. It is. | 10:08:35 19 | Q. So there was no test plan written down |
| 10:06:55 20 | Q. Okay. I mean, with improper methodology you | 10:08:37 20 | before you conducted the tests; correct? |
| 10:06:58 21 | would have unreliable results; correct? | 10:08:39 21 | A. No. |
| 10:07:02 22 | A. I don't understand what you mean by | 10:08:41 22 | Q. So my the answer to my question is: |
| 10:07:04 23 | "improper methodology." | 10:08:43 23 | "Yes, that's correct." |
| 10:07:05 24 | Q. Well if you have a messed-up methodology or | 10:08:43 24 | A. That's correct. Yes. |
| 10:07:07 25 | no methodology, there's no way for someone else to STIREWALT & ASSOCIATES | 10:08:51 25 | Q. Now you agree with me that when you are STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | | | |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 34 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 36 |
| 10:07:10 1 | | 10:08:58 | |
| 10:07:10 1 10:07:13 2 | 34 | 10:08:58 1 10:09:05 2 | 36 |
| | 34 reproduce the results, and therefore they'd be | _ | 36 formulating a test plan to do a comparison study such as this case, Bair Hugger versus HotDog, you want to |
| 10:07:13 | reproduce the results, and therefore they'd be unreliable; correct? | 10:09:05 2 | 36 formulating a test plan to do a comparison study such as this case, Bair Hugger versus HotDog, you want to |
| 10:07:13 2 10:07:14 3 | reproduce the results, and therefore they'd be unreliable; correct? A. I agree with that. Q. Okay. And when you one way to establish a methodology is to prepare protocols for a study; | 10:09:05 2 10:09:08 3 10:09:12 4 10:09:14 5 | formulating a test plan to do a comparison study such as this case, Bair Hugger versus HotDog, you want to limit the amount of external variables that could affect the results; correct? A. As much as possible, yes. |
| 10:07:13 2 10:07:14 3 10:07:18 4 | reproduce the results, and therefore they'd be unreliable; correct? A. I agree with that. Q. Okay. And when you one way to establish a methodology is to prepare protocols for a study; correct? | 10:09:05 2 10:09:08 3 10:09:12 4 10:09:14 5 10:09:14 6 | formulating a test plan to do a comparison study such as this case, Bair Hugger versus HotDog, you want to limit the amount of external variables that could affect the results; correct? A. As much as possible, yes. Q. Okay. |
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| 10:07:13 | reproduce the results, and therefore they'd be unreliable; correct? A. I agree with that. Q. Okay. And when you one way to establish a methodology is to prepare protocols for a study; correct? A. A test plan, yes. Q. Test plan protocol; correct? | 10.09.05 | formulating a test plan to do a comparison study such as this case, Bair Hugger versus HotDog, you want to limit the amount of external variables that could affect the results; correct? A. As much as possible, yes. Q. Okay. A. Correct. Q. For example, if you want to compare how the |
| 10:07:13 | reproduce the results, and therefore they'd be unreliable; correct? A. I agree with that. Q. Okay. And when you one way to establish a methodology is to prepare protocols for a study; correct? A. A test plan, yes. Q. Test plan protocol; correct? A. Yes. | 10:09:05 2 10:09:08 3 10:09:12 4 10:09:14 5 10:09:14 6 10:09:15 7 10:09:29 8 10:09:34 9 | formulating a test plan to do a comparison study such as this case, Bair Hugger versus HotDog, you want to limit the amount of external variables that could affect the results; correct? A. As much as possible, yes. Q. Okay. A. Correct. Q. For example, if you want to compare how the Bair Hugger affects the environment, and I the best |
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| | CC | CASE 0:15-md-02666-JNE-DTS Doc NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | . 823-8 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDE |
|---|--|--|---|--|
| 1 | | 37 If you want to determine how a device | 10:12:54 | dynamics? Okay. |
| 0:10:35 1 0:10:36 2 | interacte | with a system; an environment, whatever, you | _ | A. Experimental fluid dynamics. |
| • | | you want to model that environment and system | 10:12:55 2 | Q. What about theoretical fluid dynamics? |
| | | ately as possible; correct? | 10:12:56 3 | A. I know some fluid |
| :10:43 4 :10:47 5 | | That's not necessarily correct. It's | 10:12:59 4 | I know theoretical fluid dynamics, but my |
| | | to have a less than for example in the | 10:13:01 5 | ex specific expertise is as an experimentalist. |
| :10:49 b :10:56 7 | | n operating room to have less than the | 10:13:03 7 | Q. And who calls you an expert, besides |
| :10:56 | | operating room to have less than the operating room airflow in order to look at | 10:13:08 | yourself? |
| :11:04 | | t of downflow on warming blankets. | 10:13:08 | Has a Court ever determined you as an expert |
| :11:04 3 | _ | Let's go back to Engineering 101. What, in | 10:13:12 3 | in experimental fluid dynamics? |
| :11:22 11 | | cation, training and experience, do you | 10:13:16 11 | A. A court? |
| :11:24 12 | | vould affect air currents in a room? If you | 10:13:16 11 | Q. Uh-huh. |
| :11:24 12 | know. | vould affect all currents in a room: If you | 10:13:17 12 | A. Not as far as I know. |
| :11:34 13 | A. | What would affect air currents in a room | 10:13:18 13 | _ |
| | | What would affect air currents in a room. | | Q. Has any |
| :11:39 15 | Q. | Umm-hmm. | 10:13:19 15 | Have you ever won any awards in experiment |
| 11:40 16 | Α. | Like this room. | | fluid dynamics? |
| :11:41 17 | _ | Yes. Let's take this room for example. | 10:13:21 17 | A. Yes. |
| :11:44 18 | Α. | There are louvers in the ceiling that are | 10:13:24 18 | Q. So you understand that walls affect could |
| :11:46 19 | | g air, and I assume that the air is being | 10:13:27 19 | cause turbulence in a room such as this; correct? |
| 11:50 20 | | somewhere, although I can't see exactly. | 10:13:34 20 | A. I don't think that's the proper phrasing of |
| :11:53 21 | | So an air supply and an air return. Fair | 10:13:36 21 | what happens. |
| :11:55 22 | enough? | | 10:13:38 22 | Q. Okay. So what happens when the airflow hits |
| :11:55 23 | | Well, those are that's how the room is | 10:13:39 23 | a wall? You have a vent coming out and air air |
| :11:58 24 | ventilate | | 10:13:42 24 | hits a wall. What happens? |
| :11:58 25 | Q. | Okay. Anything else? | 10:13:44 25 | A. In other words, if the air comes out from |
| | | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | | -800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDE |
| | | 38 | | 40 |
| :11:59 | | | 4 | the large and access and |
| ^ | | If that's what you're asking me. | 10:13:46 | the louver and goes over and |
| • | Q. | Anything else that would affect the airflow | 10:13:46 2 | Q. Yeah. |
| :12:03 | Q. | Anything else that would affect the airflow om? | 10:13:46 2 10:13:47 3 | Q. Yeah.A hits the wall. |
| :12:03 | Q. in this ro | Anything else that would affect the airflow om? As you already mentioned, if people are | 10:13:46 2 10:13:47 3 10:13:48 4 | Q. Yeah.A hits the wall.Q. Yeah. |
| :12:03 3 :12:03 4 :12:05 5 | Q. in this ro | Anything else that would affect the airflow om? | 10:13:46 2 10:13:47 3 10:13:48 4 10:13:49 5 | Q. Yeah.A hits the wall.Q. Yeah.A. The air, depending on temperature, could |
| 112:03 3 112:03 4 112:05 5 | Q. in this ro A. moving a room. | Anything else that would affect the airflow om? As you already mentioned, if people are around that would affect the airflow in the | 10:13:46 2 10:13:47 3 10:13:48 4 10:13:49 5 10:13:52 6 | Q. Yeah. A hits the wall. Q. Yeah. A. The air, depending on temperature, could turn could turn down the wall, it could be |
| 112:03 3 112:03 4 112:05 5 112:07 6 | Q. in this ro A. moving a room. Q. | Anything else that would affect the airflow om? As you already mentioned, if people are around that would affect the airflow in the Anything else? | 10:13:46 2 10:13:47 3 10:13:48 4 10:13:49 5 10:13:52 6 10:13:56 7 | Q. Yeah. A hits the wall. Q. Yeah. A. The air, depending on temperature, could turn could turn down the wall, it could be stagnated. There are several things that could |
| 112:03 3 112:03 4 112:05 5 112:07 6 112:08 7 | Q. in this ro A. moving a room. Q. A. | Anything else that would affect the airflow om? As you already mentioned, if people are around that would affect the airflow in the Anything else? Heat sources. | 10:13:46 2 10:13:47 3 10:13:48 4 10:13:49 5 10:13:56 7 10:13:59 8 | Q. Yeah. A hits the wall. Q. Yeah. A. The air, depending on temperature, could turn could turn down the wall, it could be stagnated. There are several things that could happen. |
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| | CASE 0:15-md-02666-JNE-DTS Doc. | 823-8 | Filed 09/12/17 Page 13 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|--|---|---|--|
| | 41 | | 43 |
| 10:14:27 | room; correct? | 10:16:37 | necessarily always correct." |
| 10:14:27 2 | (Interruption by the reporter.) | 10:16:40 2 | Q. Okay. And one of the reasons why you're |
| 10:14:27 3 | Q. The airflow affects | 10:16:44 3 | saying that today is because you know, sitting here |
| 10:14:27 4 | The walls affect the airflow in the room; | 10:16:46 4 | today, that you did not account for many of the items |
| 10:14:28 5 | correct? | 10:16:52 5 | in an operating room that would affect airflow; |
| 10:14:28 6 | A. They constrain the airflow in the room. | 10:16:54 6 | correct? |
| 10:14:30 7 | Q. And that has an effect | 10:16:56 7 | A. We did a simulation of a downflow |
| 10:14:30 | A. Yes. | 10:17:01 8 | interacting with a surgery table as described in my |
| 10:14:31 9 | Q. on the airflow. | 10:17:04 9 | report. We did not attempt to simulate everything |
| 10:14:32 10 | A. Yes. | 10:17:07 10 | associated with an operating room. |
| 10:14:33 11 | Q. Very simple question, sir. | 10:17:09 11 | Q. But it wasn't even close to what was in an |
| 10:14:36 12 | And in fact you agree with me that even a | 10:17:11 12 | operating room; correct? |
| 10:14:54 13 | room such as this there are so many things that affect | 10:17:12 13 | A. It was a simulation |
| 10:14:57 14 | it that it's a complex system. | 10:17:14 14 | Q. What's your term of |
| 10:15:00 15 | A. Yes. | 10:17:15 15 | What's your definition of a simulation? |
| 10:15:08 16 | Q. Even me talking has an effect on the airflow | 10:17:17 16 | A. Well a simulation in the sense the |
| 10:15:11 17 | in this room; correct? | 10:17:21 17 | airflow laminar downflow interacting with the a |
| 10:15:14 18 | A. I would say that's a very small effect. | 10:17:27 18 | mannequin on a surgery table. It's not an actual |
| 10:15:17 19 | Q. I didn't quantify the effect. | 10:17:31 19 | clean room airflow or an actual clean room surgery |
| 10:15:20 20 | It has an effect on the airflow; "yes" or | 10:17:36 20 | setup, it's an experimental simulation. |
| 10:15:23 21 | "no"? | 10:17:42 21 | Q. Well let's go one by one. |
| 10:15:23 22 | A. Yes. | 10:17:44 22 | You agree that room dimensions will have an |
| 10:15:24 23 | Q. Okay. And if you do a study you want to | 10:17:48 23 | effect on airflow. |
| 10:15:36 24 | account for as many of the items that can affect a | 10:17:52 24 | A. They can have. |
| 10:15:41 25 | complex system; correct? | 10:18:00 25 | Q. I'm not quantifying it or giving like it has |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
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| | CONFIDENTIAL CUID IECT TO DEOTECTIVE OFFER | | CONFIDENTIAL CUBIECT TO DEOTECTIVE ORDER |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 42 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 44 |
| 10:15:45 | A. Not always correct. | 10:18:03 1 | 44 a big effect or a small effect. I just want to know |
| 10:15:47 | A. Not always correct.Q. So you don't want to perform a study that is | 10:18:05 2 | a big effect or a small effect. I just want to know if it's going to have an effect. |
| • | A. Not always correct.Q. So you don't want to perform a study that is as accurate as possible? | _ | a big effect or a small effect. I just want to know if it's going to have an effect. A. Yes. |
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| | CC | CASE 0:15-md-02666-JNE-DTS DO NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 45 | 2. 823-8 | Filed 09 | V12/17 Page 14 of 90 NFIDENTIAL - SUBJECT TO PROTECTIVE ORDI 47 |
|------------------|------------|---|---------------------|-------------|---|
|):18:53 1 | Q. | Well if there is a | 10:20:42 | it shows t | he gradient of the refractive index. |
| :18:54 2 | ٠. | I'm not saying it does in every case, but it | 10:20:47 | _ | And the refractive index is based on |
| 18:57 | can have | e an effect | 10:20:49 3 | density; c | |
| 8:58 4 | Α. | It can have an effect, yes. | 10:20:50 4 | | It's directly related to |
| 9:00 5 | Q. | Okay. | 10:20:53 5 | | Density is directly related to the |
| 9:00 6 | | Certainly. | 10:20:54 6 | refractive | |
| 9:01 7 | _ | For example, as you showed in your testing, | 10:20:55 7 | Q. | Okay. So you're saying that there's no |
| 9:05 | | which is very hot is going to have an effect | 10:20:56 | | fference from the heat being produced by |
| 9:08 | | rflow around the flame; correct? | 10:20:59 | • | rescent lights? |
| 9:09 10 | _ | Yes. | 10:21:02 10 | | There probably is. |
| 9:10 11 | Q. | Okay. The mass flow of the air supply is | 10:21:03 11 | | Okay. Is there a minimum temperature |
| 9:14 12 | | have an effect on the airflow in the room; | 10:21:06 12 | | or Delta that schlieren will not be able to |
| :18 13 | correct? | , | 10:21:12 13 | see? | |
| 9:23 14 | Α. | "The mass flow." | 10:21:13 14 | Α. | Yes. |
| 15 | Q. | Yes. | 10:21:13 15 | | What? |
| 9:25 16 | | In terms of, for example, air changes per | 10:21:15 16 | | That depends on the optical system. |
| 9:28 17 | | clean in an operating room. | 10:21:20 17 | | Okay. Let's use the one that you used in |
| 9:31 18 | | If I have a very low amount of mass coming | 10:21:21 18 | | Will it be able to see the difference of |
| 33 19 | | e vents | 10:21:27 19 | one degre | |
| 9:34 20 | | Yes, okay. | 10:21:28 20 | _ | It has to be |
| 9:35 21 | | as compared to a very high, it's going to | 10:21:29 21 | | It's looking for a gradient. It has to be a |
| 9:38 22 | have an | | 10:21:31 22 | | ure difference over a distance. |
| 9:38 23 | | Yes. | 10:21:33 23 | | Okay. So what would it be in this case? |
| 9:41 24 | | Air return, where the air returns are on the | 10:21:35 24 | _ | Much less than one degree per centimeter. |
| 9:43 25 | | going to have an effect on the airflow; | 10:21:38 25 | | One degree per centimeter? |
| 9:43 20 | sides are | STIREWALT & ASSOCIATES | 10:21:38 23 | α. | STIREWALT & ASSOCIATES |
| | , | I-800-553-1953 info@stirewalt.com | | 1_ | 800-553-1953 info@stirewalt.com |
| | | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 2 | | NFIDENTIAL - SUBJECT TO PROTECTIVE ORD |
| | | 46 | | | 48 |
| 9:45 1 | correct? | | 10:21:40 1 | Α. | Less than one degree per centimeter. |
| 9:47 | A. | In a room like this, yes. | 10:21:42 2 | Q. | Okay. So the Delta has to be less than one |
| 9:53 3 | Q. | The number of people in a room is going to | 10:21:44 3 | degree pe | er centimeter. |
| 9:55 4 | have an | effect on the airflow; correct? | 10:21:45 4 | A. | If In order not to see it. |
| 9:59 5 | A. | Again, yes. | 10:21:48 5 | Q. | Okay. In order not to see it. |
| 0:00 6 | Q. | Surgical lights in an operating room is | 10:21:49 6 | Α. | Yeah. If it's greater than that you will |
| 0:03 7 | going to | have an effect on airflow; correct? | 10:21:51 7 | see some | thing. |
| 0:04 | Α. | Yes. | 10:21:52 | | When you |
| 0:04 | Q. | The overhead lights will have an effect on | 10:21:52 | | And I think it's probably much less than |
| 0:06 10 | the airflo | ow; correct? | 10:21:54 10 | that. | |
| 0:09 11 | | In an operating room or | 10:21:54 11 | Q. | Okay. Is there |
| o:10 12 | Q. | Yes. | 10:21:56 12 | | And how do you determine that number? |
| 0:13 13 | - | I'm I'm not sure what effect the overhead | 10:21:59 13 | | There's a calculation in my book that shows |
| D:16 14 | lights ha | ve, but they could have an effect. | 10:22:02 14 | | can determine the minimum threshold of |
| D:18 15 | _ | Even in this | 10:22:04 15 | visibility. | |
| 16 | - | If you put a schlieren mirror over there | 10:22:06 16 | | And when you |
| D:21 17 | you're q | ping to see some movement, correct, right | 10:22:08 17 | | Just so I understand, what is one degree per |
| 18 | below th | | 10:22:12 18 | centimete | |
| :25 19 | _ | Fluorescent lights? | 10:22:13 19 | Α. | That's a temperature gradient. It's a |
| :26 20 | Q. | Yeah. | 10:22:16 20 | | one degree over a distance of one |
| :28 21 | - | It's possible. | 10:22:19 21 | centimete | _ |
| 30 22 | _ | Well is there a range temperature range | 10:22:19 22 | | Okay. So, for example, if I have a one |
| 32 23 | | chlieren is not going to pick up density | 10:22:31 23 | | ange over 10 centimeters |
| 0:32 23 | difference | | 10:22:31 23 | _ | Umm-hmm. That would be a tenth of a degr |
| 0:37 24 | _ | Schlieren doesn't show you the temperature, | 10:22:36 24 | | neter or one tenth of the value we were |
| | Λ. | | 10.22:37 | PCI CEIIIII | STIREWALT & ASSOCIATES |
| 0:39 23 | | | | | |
| 0:39 25 | , | STIREWALT & ASSOCIATES -800-553-1953 info@stirewalt.com | | 4 | 800-553-1953 info@stirewalt.com |

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|---|---|---|---|
| | 49 | | 51 |
| 10:22:39 1 | discussing. | 10:25:23 | gradient. |
| 10:22:40 2 | Q. And schlieren will not see that; correct? | 10:25:27 | A. Yes. |
| 10:22:43 | Or it would be very difficult. | 10:25:28 | Q. Okay. So just so I understand correctly, if |
| 10:22:44 | A. Once again, it depends on the optical | 10:25:35 4 | we're looking at a one-degree change over 20 |
| 10:22:45 5 | system. If you have a sensitive optical system you'll | 10:25:40 5 | centimeters, the schlieren mirrors you used would not |
| 10:22:48 6 | certainly see one tenth of degree per centimeter at | 10:25:43 6 | be able to detect that; correct? |
| 10:22:53 7 | atmospheric conditions. | 10:25:46 7 | A. There's some threshold, I'm not sure if that |
| 10:22:55 | Q. Okay. So the system that you used, do you | 10:25:49 | number is it. But if you have one degree change over |
| 10:23:01 | know the exact degrees per centimeter that it could | 10:25:53 | a larger and larger distance eventually the effect |
| 10:23:08 10 | pick up an image? | 10:25:57 10 | will disappear from the schlieren visualization. |
| 10:23:11 11 | A. I don't have an exact number for that, but I | 10:26:00 11 | Q. Because you're looking at the refraction of |
| 10:23:13 12 | believe it's in the range just discussed of a tenth of | 10:26:01 12 | light and the reflect the reflect might be so small |
| 10:23:16 13 | a degree per centimeter, maybe less. | 10:26:05 13 | as to be even captured by the camera. |
| 10:23:19 14 | Q. Well you said one degree per centimeter | 10:26:09 14 | A. Yeah. It's It falls below the noise |
| 10:23:21 15 | before. You said less than one degree per centimeter. | 10:26:11 15 | level eventually. |
| 10:23:23 16 | A. I believe the system that we used has a | 10:26:11 16 | Q. Okay. |
| 10:23:26 17 | sensitivity of better than that. | 10:26:12 17 | A. But the more sensitive the schlieren optics |
| 10:23:28 18 | Q. And how do I determine that? | 10:26:15 18 | is, the smaller that threshold will be. |
| 10:23:29 19 | A. One would determine that, for example, by | 10:26:20 19 | Q. Okay. And is the sensitivity based on the |
| 10:23:33 20 | generating a temperature difference and imaging it | 10:26:25 20 | camera, or the mirrors, or the whole package? |
| 10:23:37 21 | with the schlieren system. | 10:26:28 21 | A. In the case of the instrument that we used |
| 10:23:38 22 | Q. How did you determine it was point one | 10:26:30 22 | for this study it's based on the mirrors. |
| 10:23:41 23 | degrees per centimeter for the system that you used? | 10:26:34 23 | Q. Okay. All right. |
| 10:23:44 24 | A. Based on experience with, for example, the | 10:26:42 24 | Do you agree that in an operating room the |
| 10:23:48 25 | thermal plume from the human hand. | 10:26:46 25 | way a patient's draped |
| | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
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| 10:23:51 | Q. Okay. So you're saying it's a visual test | 10:26:50 | 52 And do you understand by "draping" in an |
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| • | Q. Okay. So you're saying it's a visual test | _ | And do you understand by "draping" in an |
| 10:23:53 | Q. Okay. So you're saying it's a visual test for you. | 10:26:51 2 | And do you understand by "draping" in an operating room? |
| 10:23:53 2 10:23:53 3 | Q. Okay. So you're saying it's a visual test for you.A. It's a This is photographed and produced | 10:26:51 2 10:26:52 3 | And do you understand by "draping" in an operating room? A. Yes, I do. |
| 10:23:53 2 10:23:53 3 10:23:58 4 | Q. Okay. So you're saying it's a visual test for you. A. It's a This is photographed and produced as a digital image, and from the variations in the | 10:26:51 2 10:26:52 3 10:26:53 4 | And do you understand by "draping" in an operating room? A. Yes, I do. Q the way a patient is draped will affect |
| 10:23:53 2 10:23:53 3 10:23:58 4 10:24:01 5 | Q. Okay. So you're saying it's a visual test for you. A. It's a This is photographed and produced as a digital image, and from the variations in the digital image one gets a measurement of the refractive | 10:26:51 2 10:26:52 3 10:26:53 4 10:26:55 5 | And do you understand by "draping" in an operating room? A. Yes, I do. Q the way a patient is draped will affect the airflow in the operating room. |
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|--|--|---|--|--|---|
| | | 53 | | | 55 |
| 10:28:07 | Dreibelb | is and James D. Miller. | 10:30:08 1 | yes. | |
| 10:28:09 2 | Q. | And how did they learn how to drape? | 10:30:09 2 | Q. | Okay. I take it you recently reviewed your |
| 10:28:12 3 | A. | From the 3M draping video. | 10:30:15 3 | report; o | correct? |
| 10:28:14 4 | Q. | Okay. So they learned how to drape by | 10:30:15 4 | Α. | That's correct. |
| 10:28:20 5 | watching | g a video? | 10:30:16 5 | Q. | In preparation of today's deposition? |
| 10:28:21 6 | A. | That's right. | 10:30:18 6 | A. | Yes. |
| 10:28:22 7 | Q. | Okay. Was there anyone at 3M present during | 10:30:18 7 | Q. | Okay. And you stand by your report? |
| 10:28:24 | any of th | ne testing, or the attorneys? | 10:30:21 8 | A. | I stand by my report. |
| 10:28:29 | A. | Attorney Goss and his assistant were present | 10:30:22 9 | Q. | Okay. So you've checked all the numbers in |
| 10:28:33 10 | for part | of one day of testing. | 10:30:24 10 | your rep | ort? |
| 10:28:36 11 | Q. | What day? | 10:30:25 11 | A. | I've checked the numbers in the report. |
| 10:28:38 12 | A. | I don't remember the which day it was. | 10:30:27 12 | Q. | Have you reviewed any depositions in this |
| 10:28:40 13 | Q. | Did you put it in your notes that they were | 10:30:29 13 | case? | |
| 10:28:41 14 | present? | | 10:30:30 14 | Α. | I've reviewed transcripts of three |
| 10:28:42 15 | A. | Yes. | 10:30:36 15 | deposition | ons. |
| 10:28:43 16 | Q. | You did? Okay. We'll get to that later on. | 10:30:36 16 | Q. | Which depositions? |
| 10:28:45 17 | | Did they assist in any way? | 10:30:39 17 | A. | Professor Elghobashi, Dan Koenigshofer, |
| 10:28:51 18 | A. | Yes. | 10:30:44 18 | Professo | r Thomas Kuehn. |
| 10:28:52 19 | Q. | How did they assist? | 10:30:46 19 | Q. | Did you read |
| 10:28:56 20 | A. | Peter Goss got on the operating table and we | 10:30:47 20 | | Did you read all those depositions? |
| 10:28:59 21 | _ | chlieren image of him. | 10:30:47 21 | Α. | I did. |
| 10:29:01 22 | Q. | Just laying down on the operating room | 10:30:49 22 | Q. | Take any notes? |
| 10:29:03 23 | table? | | 10:30:50 23 | Α. | No. |
| 10:29:03 24 | Α. | That's right, no draping or anything. | 10:30:51 24 | Q. | Make any highlights? |
| 10:29:06 25 | Q. | Why? | 10:30:53 25 | Α. | No. |
| | | STIREWALT & ASSOCIATES | | | STIREWALT & ASSOCIATES |
| | | -800-553-1953 info@stirewalt.com | | | 1-800-553-1953 info@stirewalt.com |
| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | | F.4 | | | F.0 |
| 1 | ٨ | The idea was to see the heat transfer | 1 | 0 | 56 |
| 10:29:07 1 | | The idea was to see the heat transfer, | 10:30:53 1 | | Did you make any notes or highlights in any |
| 10:29:11 2 | convecti | The idea was to see the heat transfer, we heat transfer from the human body using the | 10:30:55 2 | of the ar | Did you make any notes or highlights in any ticles that you reviewed or are referenced in |
| 10:29:11 2 10:29:15 3 | convection | The idea was to see the heat transfer, we heat transfer from the human body using the imaging. | 10:30:55 2 10:30:58 3 | of the ar | Did you make any notes or highlights in any ticles that you reviewed or are referenced in per? |
| 10:29:11 2 10:29:15 3 10:29:16 4 | convection schlierer Q. | The idea was to see the heat transfer, we heat transfer from the human body using the imaging. Okay. Was this before or after you did your | 10:30:55 2 10:30:58 3 10:30:59 4 | of the ar your par A. | Did you make any notes or highlights in any ticles that you reviewed or are referenced in per? I don't make marginal notes or highlights on |
| 10:29:11 2 10:29:15 3 10:29:16 4 10:29:18 5 | convection schlierer Q. study, you | The idea was to see the heat transfer, we heat transfer from the human body using the imaging. Okay. Was this before or after you did your pur testing? | 10:30:55 2 10:30:58 3 10:30:59 4 10:31:02 5 | of the ar your par A. technica | Did you make any notes or highlights in any rticles that you reviewed or are referenced in per? I don't make marginal notes or highlights on I papers. |
| 10:29:11 2 10:29:15 3 10:29:16 4 10:29:18 5 10:29:19 6 | convection schlierer Q. study, you | The idea was to see the heat transfer, we heat transfer from the human body using the imaging. Okay. Was this before or after you did your bur testing? This was early on. | 10:30:55 2 10:30:58 3 10:30:59 4 10:31:02 5 10:31:04 6 | of the ar your par A. technica | Did you make any notes or highlights in any rticles that you reviewed or are referenced in per? I don't make marginal notes or highlights on papers. Do you So you don't you |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 57 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 10:31:49 | measurement methods, they have results and | 10:33:43 1 | surgical site, does the your schlieren testing |
| 10:31:53 | conclusions, and it's not always necessary to read all | 10:33:47 | support that fact? |
| 10:31:55 3 | the details. | 10:33:48 3 | A. I've done no such schlieren testing. |
| 10:31:57 4 | Q. So you didn't read the deposition of Al Van | 10:33:51 4 | Q. Okay. And in fact schlieren testing can't |
| 10:32:00 5 | Duren; correct? | 10:33:55 5 | determine particle flow; correct? |
| 10:32:00 6 | A. I did not. | 10:34:01 6 | A. The schlieren testing determines the |
| 10:32:02 7 | Q. Okay. Are you aware that 3M admits that | 10:34:02 7 | airflow. |
| 10:32:04 | every study performed with the Bair Hugger shows an | 10:34:03 | Q. So it can't determine particle flow; |
| 10:32:07 | increase in particles over the surgical site? | 10:34:05 | correct? |
| 10:32:10 10 | MR. GOSS: Object to form. | 10:34:06 10 | A. It's not an appropriate instrument to |
| 10:32:11 11 | MR. ASSAAD: Basis? | 10:34:07 | measure particle flow. |
| 10:32:13 12 | MR. GOSS: He wouldn't have any foundation, | 10:34:09 12 | Q. So the answer to my question is yes, it |
| 10:32:15 13 | he hasn't read Al Van Duren's deposition. Plus, | 10:34:11 13 | can't it can't detect particle flow; correct? |
| 10:32:20 14 | characterizing something as an admission when there | 10:34:15 14 | A. I'm not going to restrict it that way |
| 10:32:23 15 | are scientific studies. You can present him with the | 10:34:18 15 | because I believe there's studies where particle |
| 10:32:24 16 | studies and ask him if he has an opinion on them. | 10:34:20 16 | measurements were made, but it's not an appropriate |
| 10:32:26 17 | MR. ASSAAD: What do you think a 30(b)(6) | 10:34:22 17 | instrument. There are better instruments for that |
| 10:32:28 18 | deposition is? | 10:34:26 18 | purpose than the schlieren instrument. |
| 10:32:28 19 | MR. GOSS: He said he hasn't read it. | 10:34:27 19 | Q. And And in your study, your schlieren |
| 10:32:30 20 | MR. ASSAAD: Okay. | 10:34:30 20 | testing could not conduct could not track particle |
| 10:32:30 21 | Q. Well assume that | 10:34:34 21 | flow. |
| 10:32:30 22 | MR. GOSS: That's my basis. | 10:34:34 22 | A. We made no attempt to track particle flow. |
| 10:32:32 23 | Q. Assume that 3M admits that every study | 10:34:37 23 | Q. And in fact it can't detect turbulence, can |
| 10:32:34 24 | showed an increase in particles over the surgical site | 10:34:41 24 | it? |
| 10:32:37 25 | when the Bair Hugger was on. Assume that fact. | 10:34:42 25 | A. Oh yes, it can. |
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| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 58 | | 60 |
| 10:32:39 1 | Have you heard of that fact before? | 10:34:42 | Q. Really? |
| 10:32:42 2 | A. Only insofar as it appeared in a deposition | 10:34:42 2 | A. Really. |
| 10:32:46 3 | transcript. | 10:34:44 3 | Q. Do you recall writing down that your testing |
| 10:32:46 4 | Q. Okay. So you weren't aware of that fact | 10:34:46 4 | would not be able to detect turbulence? |
| 10:32:48 5 | hoforou correct? | | |
| | before; correct? | 10:34:48 5 | A. I'm sorry. We |
| 10:32:49 6 | A. No. | 10:34:48 5 10:34:48 6 | A. I'm sorry. WeQ. Do you remember writing in your notes about |
| 10:32:49 6 10:32:49 7 | | | , · |
| _ | A. No. | 10:34:48 6 | Q. Do you remember writing in your notes about that you won't be testing for turbulence because schlieren can't do turbulence? |
| 10:32:49 7 | A. No.Q. And you weren't aware that a corporate | 10:34:48 6 10:34:50 7 | Q. Do you remember writing in your notes about that you won't be testing for turbulence because |
| 10:32:49 7 10:32:52 8 | A. No. Q. And you weren't aware that a corporate representative for 3M testified to that fact as being true. A. I'm not aware of that. | 10:34:48 6 10:34:50 7 10:34:53 8 | Q. Do you remember writing in your notes about that you won't be testing for turbulence because schlieren can't do turbulence? A. No. Turbulence intensity. Q. Okay. I'm sorry. Turbulence intensity. It |
| 10:32:49 7 10:32:52 8 10:32:54 9 | A. No.Q. And you weren't aware that a corporate representative for 3M testified to that fact as being true. | 10:34:48 6 10:34:50 7 10:34:53 8 10:34:54 9 | Q. Do you remember writing in your notes about that you won't be testing for turbulence because schlieren can't do turbulence? A. No. Turbulence intensity. |
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| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 18 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 63 |
| 10:36:05 | the defendant's experts. | 10:37:23 | A. I would say that it's been in the month of |
| | Q. When did you get the defendant's expert | _ | July, but I don't have a better or particular date |
| 10:36:07 Z | | • | than that. |
| | reports? A. Recently, but I don't have exact date in | 4 | Q. Did you receive it this week? |
| 10:36:11 4 | mind. | 10:37:29 4 10:37:32 5 | A. The expert reports? |
| | Q. When you say "recently," was it | • | Q. Yes. |
| 10:36:13 | A. Well these | - | |
| 10:36:13 | Q the past week? | | A. This is only Tuesday. I'd received it before this week. |
| 10:36:15 | A. These | • | Q. Did you receive it last week? |
| 10:36:17 | | | |
| 10:36:18 10 | As far as I know, these depositions were | 10:37:43 10 | A. I don't have any better information than |
| 10:36:21 11 | only held recently. | 10:37:46 11 | that. |
| 10:36:23 12 | Q. I'm talking about the expert reports | 10:37:57 12 | Q. Did you read the expert reports? |
| 10:36:24 13 | themselves. | 10:37:59 13 | A. I did. |
| 10:36:25 14 | A. Expert reports were due June 2nd, so it's | 10:38:00 14 | Q. Which ones did you read? |
| 10:36:28 15 | been since June 2nd. | 10:38:02 15 | A. There were four expert reports that I read, |
| 10:36:30 16 | Q. When did you receive the expert reports? | 10:38:07 16 | two from the plaintiff and two from the defendants: |
| 10:36:32 17 | A. Sometime between June 2nd and now. | 10:38:12 17 | Elghobashi, Koenigshofer, Thomas Kuehn and Abraham. |
| 10:36:34 18 | Q. Come on doctor, you gotta give me a better | 10:38:29 18 | Q. Did you make any notes in the reports? |
| 10:36:36 19 | time than that. You have a | 10:38:30 19 | A. No. |
| 10:36:36 20 | MR. GOSS: No. | 10:38:31 20 | Q. Did you get Dr. Borak's report, expert |
| 10:36:37 21 | Q. better memory than that, sir. | 10:38:33 21 | report? |
| 10:36:38 22 | MR. GOSS: No. | 10:38:34 22 | A. Are you asking did I receive it? |
| 10:36:38 23 | A. Summer time. | 10:38:36 23 | Q. Yeah. |
| 10:36:38 24 | MR. GOSS: He doesn't | 10:38:36 24 | A. I received more reports than I was able to |
| 10:36:40 25 | Wait for him to ask a question. | 10:38:40 25 | read. I'm not sure who the others were. |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 62 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 10:36:40 1 | | 10:38:43 1 | |
| 10:36:40 1 10:36:40 2 | 62 | 10:38:43 1 10:38:46 2 | 64 |
| | 62 MR. ASSAAD: He doesn't have a better | • | Q. Did you have a list of the reports that you |
| 10:36:40 2 | MR. ASSAAD: He doesn't have a better memory than that? | 10:38:46 2 | Q. Did you have a list of the reports that you received? |
| 10:36:40 2 10:36:40 3 | MR. ASSAAD: He doesn't have a better memory than that? MR. GOSS: Wait. You don't | 10:38:46 2 10:38:48 3 | Q. Did you have a list of the reports that you received? A. I can make a list. |
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| 10:36:40 2 10:36:40 3 10:36:40 4 10:36:50 5 10:36:51 6 7 8 9 10 11 10:36:52 12 10:36:53 13 10:36:55 14 10:36:57 15 10:37:03 16 10:37:04 17 10:37:05 18 10:37:07 19 10:37:09 20 10:37:09 21 10:37:09 22 10:37:10 23 | MR. ASSAAD: He doesn't have a better memory than that? MR. GOSS: Wait. You don't (Interruption by the reporter.) MR. ASSAAD: Let's not play games. MR. GOSS: You're not going to bully him MR. ASSAAD: Let's not play games. MR. GOSS: We're not playing (Interruption by the reporter.) (Off the stenographic record.) MR. ASSAAD: Let's not play games. MR. GOSS: And I object to the suggestion that he's playing games. MR. ASSAAD: If he cannot tell me between between now between June 2nd and July 18th an approximate time he received the defense expert reports, that's playing games. MR. GOSS: You can make whatever comments you want. He will testify to the best of his recollection. BY MR. ASSAAD: Q. When did you receive MR. GOSS: You can answer it if you can. | 10:38:46 2 10:38:48 3 10:38:50 4 10:38:55 5 10:38:55 6 10:38:57 10 10:38:57 10 10:38:57 11 10:39:01 12 10:39:01 14 10:39:05 14 10:39:01 15 10:39:14 18 10:39:16 19 10:39:18 20 10:39:22 22 10:39:25 23 | Q. Did you have a list of the reports that you received? A. I can make a list. Q. Do you have anything with you here today? A. No. Q. Did defense counsel tell you not to bring anything today? A. "Not to bring anything"? Q. Yes. A. No. He didn't tell me that. Q. So why didn't you bring anything today to help refresh your memory? A. I wasn't instructed to bring anything. Q. Did you not receive a subpoena to have documents produced? A. Yes, but that had nothing to do with today. I responded to the subpoena. Q. Did you receive the expert report of Dr. Holford? A. I don't know the I told you the reports that I had read. I'm not sure what other reports I received that I did not read. Q. So sitting here today, I can go through the |
| 10:36:40 2 10:36:40 3 10:36:40 4 10:36:50 5 10:36:51 6 7 8 9 10 11 10:36:52 12 10:36:53 13 10:36:55 14 10:36:57 15 10:37:03 16 10:37:04 17 10:37:07 19 10:37:09 20 10:37:09 21 10:37:09 22 10:37:10 23 10:37:12 24 | MR. ASSAAD: He doesn't have a better memory than that? MR. GOSS: Wait. You don't (Interruption by the reporter.) MR. ASSAAD: Let's not play games. MR. GOSS: You're not going to bully him MR. ASSAAD: Let's not play games. MR. GOSS: We're not playing (Interruption by the reporter.) (Off the stenographic record.) MR. ASSAAD: Let's not play games. MR. GOSS: And I object to the suggestion that he's playing games. MR. ASSAAD: If he cannot tell me between between now between June 2nd and July 18th an approximate time he received the defense expert reports, that's playing games. MR. GOSS: You can make whatever comments you want. He will testify to the best of his recollection. BY MR. ASSAAD: Q. When did you receive MR. GOSS: You can answer it if you can. Q. When did you receive the defense expert | 10:38:46 2 10:38:48 3 10:38:50 4 10:38:55 5 10:38:55 6 10:38:57 10 10:38:59 11 10:39:01 12 10:39:01 12 10:39:01 14 10:39:01 15 10:39:01 15 10:39:14 18 10:39:14 18 10:39:16 19 10:39:18 20 10:39:22 22 10:39:25 23 10:39:25 24 | Q. Did you have a list of the reports that you received? A. I can make a list. Q. Do you have anything with you here today? A. No. Q. Did defense counsel tell you not to bring anything today? A. "Not to bring anything"? Q. Yes. A. No. He didn't tell me that. Q. So why didn't you bring anything today to help refresh your memory? A. I wasn't instructed to bring anything. Q. Did you not receive a subpoena to have documents produced? A. Yes, but that had nothing to do with today. I responded to the subpoena. Q. Did you receive the expert report of Dr. Holford? A. I don't know the I told you the reports that I had read. I'm not sure what other reports I received that I did not read. |
| 10:36:40 2 10:36:40 3 10:36:40 4 10:36:50 5 10:36:51 6 7 8 9 10 11 10:36:52 12 10:36:53 13 10:36:55 14 10:36:57 15 10:37:03 16 10:37:04 17 10:37:07 19 10:37:09 20 10:37:09 21 10:37:09 22 10:37:10 23 10:37:12 24 | MR. ASSAAD: He doesn't have a better memory than that? MR. GOSS: Wait. You don't (Interruption by the reporter.) MR. ASSAAD: Let's not play games. MR. GOSS: You're not going to bully him MR. ASSAAD: Let's not play games. MR. GOSS: We're not playing (Interruption by the reporter.) (Off the stenographic record.) MR. ASSAAD: Let's not play games. MR. GOSS: And I object to the suggestion that he's playing games. MR. ASSAAD: If he cannot tell me between between now between June 2nd and July 18th an approximate time he received the defense expert reports, that's playing games. MR. GOSS: You can make whatever comments you want. He will testify to the best of his recollection. BY MR. ASSAAD: Q. When did you receive MR. GOSS: You can answer it if you can. Q. When did you receive the defense expert reports? | 10:38:46 2 10:38:48 3 10:38:50 4 10:38:55 5 10:38:55 6 10:38:57 10 10:38:59 11 10:39:01 12 10:39:01 12 10:39:01 14 10:39:01 15 10:39:01 15 10:39:14 18 10:39:14 18 10:39:16 19 10:39:18 20 10:39:22 22 10:39:25 23 10:39:25 24 | Q. Did you have a list of the reports that you received? A. I can make a list. Q. Do you have anything with you here today? A. No. Q. Did defense counsel tell you not to bring anything today? A. "Not to bring anything"? Q. Yes. A. No. He didn't tell me that. Q. So why didn't you bring anything today to help refresh your memory? A. I wasn't instructed to bring anything. Q. Did you not receive a subpoena to have documents produced? A. Yes, but that had nothing to do with today. I responded to the subpoena. Q. Did you receive the expert report of Dr. Holford? A. I don't know the I told you the reports that I had read. I'm not sure what other reports I received that I did not read. Q. So sitting here today, I can go through the names of Hughes, Mont, Wentzel, Kuehn, K-U-each-A-N |

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| 1 | 65 | | 67 |
| 1:39:30 | K-U-E-H-N Abraham, Lampotang, Hannenberg, Ho and | 10:41:50 1 | boundary conditions if I were to give you an accurate |
| 39:38 2 39:40 3 | Keen, and the only two reports that you remember | _ | answer. Q. So sitting here today you don't recall what |
| | receiving is from Abraham and Kuehn. | | , , |
| 39:43 4 39:45 5 | A. No. What I'm saying is the only two reports that I read were Abraham and Thomas Kuehn. I didn't | 10:41:55 4 10:41:58 5 | Dr. Abraham put as the temperature coming out of the Bair Hugger, or the air coming out of the Bair Hugger. |
| | read any other expert reports. | _ | Is that your testimony today? |
| - | Q. Why were you | 10:42:01 6 10:42:02 7 | A. The air coming out of the Bair Hugger where? |
| 39:55 / 39:55 8 | Why did you read Abraham's report? | | Q. Around the neck and head. |
| • | A. It's pertinent to the work that I did. | 10:42:04 8 10:42:06 9 | A. Yes, I remember that. |
| 9:59 9 0:02 10 | Q. Okay. Why was it pertinent? | 10:42:06 3 | Q. What was the temperature? |
| 0:02 10 | A. It had especially to do with the question of | 10:42:07 10 | A. I think it was 41 degrees Centigrade. |
| 0:05 1 1 | velocity and temperature of airflow at the bottom of | 10:42:16 11 | Q. You believe it was 41 degrees? |
| 0:11 12 | the drapes. | 10:42:19 12 | Do you agree with that? |
| 0:15 13 | Q. Okay. Did you | 10:42:20 13 | A. No. |
| 0:15 14 | | 10:42:21 14 | |
| | Do you agree with everything that Abraham | 10:42:22 15 | , , |
| 0:18 16 0:21 17 | put in his report? A. Do I agree with everything? | 10:42:26 17 | conditions. A. In that instance I do, right. |
| 0:21 17 0:22 18 | Q. Umm-hmm. | 10:42:26 17 | Q. Okay. So you think Dr. Abraham is wrong in |
| 0:22 10 | A. That's a very broad question. I don't think | 10:42:28 10 | his report. |
| 0:23 19 | I can answer that question because I would have to go | 10:42:34 19 | MR. GOSS: Object to form. |
| 0:30 20 0:33 21 | back and look at everything that's in the report and I | 10:42:37 20 | Q. Strike that question. |
| 0:33 21 | would have then have to decide whether I agreed | 10:42:40 21 | You agree with me that one of the most |
| 0:36 22 | with it or not. | 10:42:41 22 | important boundary conditions is to determine the air |
| 0:38 23 | | 10:42:43 23 | |
| 0:39 24 | | 10:42:46 24 | coming out of the Bair Hugger for any analysis; |
| ·0:42 Z J | A. "His boundary conditions." STIREWALT & ASSOCIATES | 10:42:48 23 | correct? STIREWALT & ASSOCIATES |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | 68 |
| 0:50 1 | Could you be more specific? | 10:42:49 1 | A. Correct. |
| 0:50 2 | Q. Do you agree with his boundary conditions | 10:42:49 1 | Q. And that |
| 0:53 3 | with the temperature of the air coming out of the Bair | 10:42:51 3 | And that determination of the boundary |
| 0:56 4 | Hugger? | 10:42:53 | condition is going to effect the entire study if that |
| 0:58 5 | A. We're talking about John Abraham. | 10:42:58 5 | if that boundary condition is wrong; correct? |
| 1:01 6 | Q. Yes, John Abraham. | 10:42:36 6 | A. Yes. |
| 1:04 7 | A. What I'm recalling is that he has a in | 10:43:01 7 | Q. Okay. So if he has the wrong boundary |
| 1:08 | his expert report, a criticism of the boundary | 10:43:04 8 | condition for the actual temperature coming out of the |
| 1:12 9 | conditions that were used in | 10:43:06 9 | Bair Hugger, that would make his entire study |
| 1:15 10 | Q. That wasn't my question, sir. | 10:43:10 10 | incorrect, according to you. |
| 1:17 11 | My question was, and he knows it's not my | 10:43:10 | MR. GOSS: Object to form. |
| 1:19 12 | question, that's why he's not objecting. | 10:43:12 | A. I'm not going to agree to that. |
| 1:21 13 | MR. GOSS: Yeah, but we have seven hours | 10:43:13 12 | Q. Why not? |
| 1:23 14 | Q. My question is: Do you have any criticism | 10:43:16 13 | A. You asked me about a component, not the |
| 1:24 15 | of what Abraham, Abraham, Dr. Abraham, not Elghobashi, | 10:43:17 | entire study. |
| 1:28 16 | used for his temperature coming out of the Bair | 10:43:21 16 | Q. Well do you agree with me that air |
| 1:30 17 | Hugger? | 10:43:22 17 | temperature is going to have an effect on airflow? |
| 1:30 17 | MR. GOSS: You didn't give me a chance to | 10:43:32 18 | A. The |
| 1:32 19 | object. We've got seven hours, you've got all the | 10:43:33 19 | In other words, the temperature boundary |
| 1:35 20 | time you need. Just let him finish his answer. | 10:43:34 20 | condition |
| 1:38 21 | You can explain what you meant. Do you | 10:43:34 21 | Q. Yes. |
| 1:40 22 | understand his question? If you do, you can answer | 10:43:34 21 | A is what you're asking me about. |
| 1:42 23 | it. | 10:43:35 22 | Yeah, that's an important issue. |
| | A. Well I would have to go back and look at the | 10:43:36 23 | Q. I mean, you criticized Dr. Elghobashi for |
| 1.42 7/1 | | 10:43:38 24 10:43:41 25 | having the wrong boundary conditions and that's why |
| | | | navina the wrong pouldary Collubolis alla Ulat's WNV |
| 11:43 24 11:45 25 | report in order to specifically remind myself of his | 10.43.41 | |
| | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | 10.43.41 | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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|----------------------------------|--------------|---|---------------------|---|
| 0:43:43 1 | his repo | t is wrong; correct? | 10:45:14 | conversation I went through with Dr. Kuehn in my |
| 0:43:45 | A. | I did. | 10:45:17 2 | deposition of him? |
| :43:45 3 | Q. | Okay. So Abraham has the wrong boundary | 10:45:18 3 | A. I wouldn't say the entire, but I did read |
| :43:49 4 | condition | ns. Why can't you say his report is wrong? | 10:45:20 4 | it. |
| :43:50 5 | Or are y | ou biased? | 10:45:21 5 | Q. Okay. Are you a member of the Order of |
| :43:54 6 | | Are you biased? | 10:45:22 6 | Engineer? |
| :43:56 7 | | MR. GOSS: Object to form. | 10:45:23 7 | A. No. |
| :43:58 | Q. | Are you being objective? | 10:45:23 | Q. Do you know what the Order of the Engineer |
| :43:59 9 | | MR. GOSS: No. Now you're badgering him. | 10:45:24 | is? |
| :44:00 10 | | MR. ASSAAD: No. | 10:45:26 10 | A. No. |
| :44:00 11 | Q. | Are you being objective, sir? | 10:45:27 11 | Q. Do you agree that the safety of patients is |
| 44:02 12 | | MR. GOSS: No. No. No. No. I think | 10:45:29 12 | more important than your testimony? |
| 44:02 13 | the ques | tion | 10:45:35 13 | A. Say again, please. |
| 44:03 14 | | MR. ASSAAD: I'm not badgering him. | 10:45:36 14 | Q. The safety of patients in the world, you |
| 44:04 15 | | MR. GOSS: Yes, you are. | 10:45:40 15 | know, safety of patients is more important should |
| 44:06 16 | | MR. ASSAAD: I am not badgering him. | 10:45:42 16 | be the ultimate concern than your testimony in this |
| 44:06 17 | | MR. GOSS: Well it should be | 10:45:45 17 | case, what your testimony should be. |
| 44:07 18 | | MR. ASSAAD: You can watch the video, we | 10:45:47 18 | A. I don't understand that question. |
| 44:08 19 | can show | v it to the Court. | 10:45:50 19 | Q. You don't understand that question? Fair |
| 44:09 20 | | MR. GOSS: I would be happy to. In fact | 10:45:51 20 | enough. I'll go to the next one, then. |
| 44:11 21 | | MR. ASSAAD: Yes. Let's do it. | 10:45:53 21 | Do you agree that engineers uphold and |
| 44:12 22 | | MR. GOSS: So let's let's | 10:45:55 22 | advance the integrity, honor and dignity of the |
| 44:12 23 | | The question I believe was related to you | 10:45:58 23 | engineering profession? |
| 14:15 24 | criticized | Elghobashi. | 10:45:59 24 | A. I do, but I'd like to return to the the |
| 44:17 25 | Citcicizo | MR. ASSAAD: I'll rephrase the question. | 10:46:02 25 | first one. |
| | | STIREWALT & ASSOCIATES | 10.40.02 | STIREWALT & ASSOCIATES |
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| 44:17 1 | BY MR. | | 10:46:04 | Q. He can get to that later on when he asks you |
| 44:18 2 | | You criticized Elghobashi and you said his | 10:46:07 | questions. |
| 14:20 3 | | wrong; correct? | 10:46:07 | Do you agree |
| 44:21 4 | _ | Correct. | 10:46:07 | So you agree with me that engineers should |
| _ | _ | Now you just admitted that Dr. Abraham was | _ | be objective, honest and have integrity in formulating |
| 14:22 5 14:25 6 | | his exit temperature, his boundary | | their opinions. |
| - | _ | ns; correct? | _ | A. I do. |
| 14:28 / 14:32 8 | | Slightly wrong, yeah. | | Q. Okay. Do you think that engineers at 3M |
| • | | | | |
| 14:33 9 | | Oh, now he's "slightly wrong." You change | 10:46:14 9 | should be held to the same standard? |
| 14:36 10 | your tes | | 10:46:17 10 | A. Say again, please? |
| 14:37 11 | | I'll change my testimony. | 10:46:18 11 | Q. Should engineers at 3M be held to that same |
| 14:38 12 | Ų. | Okay. Fair enough. | 10:46:20 12 | standard? |
| 14:40 13 | +b - + · · · | So since he's slightly wrong do you agree | 10:46:21 13 | MR. GOSS: I'm just going to object to this |
| 14:44 14 | • | should be critical of Dr. Abraham's results? | 10:46:23 14 | whole line |
| 14:57 15 | | Do I get to explain myself, or do I have to | 10:46:23 15 | MR. ASSAAD: You can have a continuing |
| 14:59 16 | - | a "yes" or "no"? | 10:46:23 16 | objection. |
| 15:00 17 | | You can explain after you answer "yes" or | 10:46:25 17 | MR. GOSS: as beyond the scope of his |
| 15:01 18 | "no." | | 10:46:26 18 | expert opinions that he will offer in this case. |
| 15:02 19 | _ | What was your question again? | 10:46:29 19 | Q. Do you think engineers at 3M should be held |
| 15:03 20 | Q. | Are you critical of Dr. Abraham's results? | 10:46:31 20 | to that same standard? |
| 15:05 21 | Α. | Yes. | 10:46:33 21 | A. I'm going to restrict my testimony to my |
| 15:07 22 | Q. | Now let me ask you a question. You're a | 10:46:40 22 | expertise and my report. |
| 15:10 23 | | of ASME; correct? | 10:46:43 23 | Q. Sir, under the rules you cannot restrict |
| 15:10 24 | A. | I'm a member of ASME. | 10:46:45 24 | your testimony. You gotta answer my questions unle |
| | Q. | Do you remember the entire ethics | 10:46:47 25 | your counsel tells you not to answer the question. |
| | Q. | • | | • |
| 45:10 24 | Q. | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |

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| | | 73 | | 75 |
| 10:46:49 | | Do you agree that 3M should be held to that | 10:48:31 1 | Q. And the answer to that question was "yes," |
| 10:46:52 2 | same sta | andard; "yes" or "no"? | 10:48:33 2 | to refresh my recollection; correct? |
| 10:46:57 3 | A. | Engineers at 3M. | 10:48:34 3 | A. Correct. |
| 10:46:58 4 | Q. | Yes. | 10:48:39 4 | Q. Now as someone that's going to Strike |
| 10:46:59 5 | A. | Yes. | 10:48:47 5 | that. |
| 10:47:04 6 | Q. | Do you agree that engineers must use their | 10:48:47 6 | As an engineer in this case you yourself |
| 10:47:07 7 | knowled | ge and skill for enhancement of human welfare? | 10:48:52 7 | must follow engineering ethics; correct? |
| 10:47:11 8 | A. | Yes. | 10:48:54 8 | A. Yes. |
| 10:47:12 | Q. | Do you agree that safety is paramount with | 10:48:58 9 | Q. So not just as an expert, but as an |
| 10:47:16 10 | - | to engineering design? | 10:49:00 10 | engineer; correct? |
| 10:47:18 11 | A. | Yes. | 10:49:00 11 | A. Yes. |
| 10:47:19 12 | | That was the first question, but I did not | 10:49:01 12 | Q. Okay. And to do so, to solve a problem you |
| 10:47:21 13 | | and your phrasing of it. You said my | 10:49:05 13 | want as much information as possible to solve a |
| 10:47:26 14 | testimor | y. It was confusing. | 10:49:07 14 | problem when a problem presents itself to you; |
| 10:47:29 15 | | MR. ASSAAD: Move to strike his that | 10:49:09 15 | correct? |
| 10:47:32 16 | • | he answer. | 10:49:10 16 | A. As much information as is reasonably |
| 10:47:34 17 | | Do you believe that safety of patients in | 10:49:12 17 | possible, yes. |
| 10:47:37 18 | with res | pect to Strike that. | 10:49:13 18 | Q. Okay. Reasonably possible; correct? |
| 10:47:39 19 | - | Do you agree that the safety of people is | 10:49:15 19 | So in this you know, in this case you |
| 10:47:41 20 | | portant than profits? | 10:49:17 20 | want, you know, all the information regarding the Bair |
| 10:47:43 21 | _ | Of course. | 10:49:19 21 | Hugger; correct? |
| 10:47:45 22 | Q. | Engineering is a profession; isn't it, sir? | 10:49:21 22 | MR. GOSS: Objection, vague. |
| 10:47:48 23 | Α. | Yes. | 10:49:23 23 | Q. Like you want to have how the Bair Hugger |
| 10:47:48 24 | Q. | Not just a job, it's a profession; correct? | 10:49:25 24 | works, how much heat it puts out, |
| 10:47:50 25 | Α. | Yes. | 10:49:27 25 | A. Yes. |
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| 10:47:51 | Q. | And as a professor in engineering you have a | 10:49:27 | Q how much it blows; |
| 10:47:53 2 | duty to t | each your students regarding ethical | 10:49:28 2 | A. Yes. |
| 10:47:56 3 | behavio | | 10:49:30 3 | Q correct? |
| 10:47:57 4 | A. | Yes. | 10:49:30 4 | A. Yes. |
| 10:47:58 5 | Q. | Engineers are to be honest; correct? | 10:49:30 5 | Q. What's the flow rate; correct? The |
| 10:48:00 6 | A. | Yes. | 10:49:32 6 | different temperature settings; correct? |
| 10:48:01 7 | Q. | Impartial? | 10:49:34 7 | Right? |
| 10:48:02 8 | A. | Yes. | 10:49:34 8 | A. Yes. |
| 10:48:03 | Q. | And have a | 10:49:34 9 | Q. How it's used in an operating room; correct? |
| 10:48:03 10 | | And serve with fidelity to the public; | 10:49:37 10 | A. Yes. |
| 10:48:05 11 | correct? | | 10:49:38 11 | Q. How it's used in a hip and knee surgery; |
| 10:48:05 12 | Α. | Yes. | 10:49:41 12 | correct? |
| 10:48:07 13 | | And the definition of fidelity is the | 10:49:42 13 | A. Yes. |
| 10:48:09 14 | | f being faithful and loyal; correct? | 10:49:43 14 | Q. You want to know how patients are draped in |
| 10:48:11 15 | _ | Yes. | 10:49:45 15 | a hip and knee surgery with the Bair Hugger; correct? |
| 10:48:13 16 | Q. | And the same applies to the engineers at 3M; | 10:49:48 16 | A. Yes. |
| 10:48:15 17 | correct? | | 10:49:48 17 | Q. You want to know what lays over the Bair |
| 10:48:17 18 | | MR. GOSS: Asked and answered. | 10:49:49 18 | Hugger; correct? |
| 10:48:18 19 | | Asked and answered, yes. I've already | 10:49:50 19 | A. Yes. |
| | answere | d you. | 10:49:50 20 | Q. Okay. You also want to know what studies |
| 10:48:21 20 | diiswere | MR. GOSS: It's my objection. You You | 10:49:53 21 | discuss the effect of the Bair Hugger that previous |
| 10:48:22 21 | | | | |
| 10:48:22 21 10:48:24 22 | just focu | s on his questions. | 10:49:58 22 | scientists in the field have done with respect to the |
| 10:48:22 21 10:48:24 22 10:48:27 23 | just focu Q. | s on his questions. "Yes"? | 10:50:01 23 | downward airflow; correct? |
| 10:48:22 21 10:48:24 22 10:48:27 23 10:48:29 24 | just focu Q. A. | s on his questions. "Yes"? I believe I've already answered the | 10:50:01 23 10:50:02 24 | downward airflow; correct? A. Yes. |
| 10:48:22 21 10:48:24 22 10:48:27 23 | just focu Q. | s on his questions. "Yes"? I believe I've already answered the . | 10:50:01 23 | downward airflow; correct? A. Yes. Q. And you agree with me that as a manufacturer |
| 10:48:22 21 10:48:24 22 10:48:27 23 10:48:29 24 | just focu Q. A. question | s on his questions. "Yes"? I believe I've already answered the | 10:50:01 23 10:50:02 24 | downward airflow; correct? A. Yes. |

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|---|--|--|--|
| 10:50:08 | 77 such as 3M they're not going to put a product out | 10:52:14 | 79 A. That's certainly a part of engineering. |
| 10:50:10 2 | there in the con with the in the market without | 10:52:14 | Q. Are you familiar with the Ford Pinto case? |
| 10:50:14 3 | doing its own internal testing; correct? | 10:52:25 3 | A. Only Well from distant memory and the |
| 10:50:16 4 | MR. GOSS: Objection, calls for | 10:52:32 | transcript of the deposition of Professor Thomas |
| 10:50:17 5 | speculation. | 10:52:35 5 | Kuehn. |
| 10:50:20 6 | . Q. Correct? | 10:52:36 6 | Q. What about the Citibank case, are you |
| 10:50:21 7 | A. Would you repeat that? | 10:52:38 7 | familiar with that? |
| 10:50:22 | Q. I mean, are you aware of any corporation | 10:52:39 | A. No. |
| 10:50:24 | that just does creates a product and just puts it | 10:52:46 | Q. Do you agree that engineers and the |
| 10:50:27 10 | out into the market without doing any testing on it? | 10:52:50 10 | corporations they work for should not manipulate |
| 10:50:30 11 | A medical device? | 10:52:53 11 | research? |
| 10:50:31 12 | A. No, I'm not aware of it. | 10:52:54 12 | MR. GOSS: Object to form. |
| 10:50:33 13 | Q. Okay. Because that would be unethical for | 10:52:56 13 | A. I think you are |
| 10:50:35 14 | an engineer not to test something to make sure it's | 10:53:01 14 | You know, I'm here to testify about the work |
| 10:50:38 15 | safe and reliable and okay for the market to use; | 10:53:02 15 | I did, and I'm not supposed to speculate. |
| 10:50:41 16 | correct? | 10:53:07 16 | Q. You think you would be speculating by |
| 10:50:41 17 | MR. GOSS: Continuing objection to ethics. | 10:53:09 17 | agreeing to the statement that engineers and |
| 10:50:45 18 | Q. Correct? | 10:53:13 18 | corporations should not manipulate research? |
| 10:50:45 19 | A. Yes. | 10:53:15 19 | MR. GOSS: Same objection. |
| 10:50:45 20 | Q. By the way, does ethics apply to your | 10:53:16 20 | Q. You think that's speculation, sir? |
| 10:50:49 21 | scientific testing done in this case? | 10:53:17 21 | A. What do you mean "manipulate"? |
| 10:50:52 22 | A. Yes. | 10:53:19 22 | Q. What do you think the term "manipulate" |
| 10:50:52 23 | Q. Okay. I mean, you don't give up being an | 10:53:21 23 | means? |
| 10:51:02 24 | engineer when you were retained by 3M in this case; | 10:53:23 24 | A. Change it. |
| 10:51:04 25 | correct? | 10:53:24 25 | Q. Okay. |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 78 | | 80 |
| 10:51:04 | A. I do not. | 10:53:24 | A. Mess with it. |
| 10:51:09 2 | Q. Did you ever look at the design file in this | 10:53:26 2 | Q. Yes. |
| 10:51:11 3 | case of 3M? Did they ever provide that to you, of the | 10.00.20 | Do you think engineers should do that? |
| 10:51:16 4 | 775 or | 10:53:36 | A. Can you |
| 10:51:16 5 | A. No, | 10:53:38 5 | Q. If you can't answer the question, you |
| 10:51:17 b | Q any of the predecessor devices?A I do not have design files. | 10:53:39 6 10:53:40 7 | A. Do you mean manipulateQ. If you can't answer the question, you can |
| 10:51:19 | Q. Were you provided any testing, internal | | say you can't answer the question. |
| 10:51:20 8 10:51:23 9 | documents regarding testing of of the device? | 10:53:41 8 10:53:42 9 | MR. GOSS: Okay. But he was going to try |
| 10:51:25 | A. No internal documents. | 10:53:44 10 | and answer, so let him say what he was going to say. |
| 10:51:25 | Q. Did you receive any internal documents from | 10:53:47 11 | Q. Okay. I'm just saying |
| 10:51:28 12 | 3M? | 10:53:48 12 | A. Do you mean manipulate for adverse effect or |
| 10:51:28 12 | A. No. | 10:53:48 12 | adverse reasons, is that what you mean? |
| 10:51:30 13 | Q. Okay. You'd agree with me that it would be | 10:53:50 13 | Q. That's usually the connotation of |
| 10:51:38 15 | unethical for an engineer to ignore a potential | 10:53:56 15 | "manipulate," yes. |
| 10:51:40 16 | problem than to solve it; correct? | 10:53:56 16 | A. There are other connotations, but I'll agree |
| 10:51:46 17 | A. Say again, please. | 10:53:58 17 | with that connotation. |
| | Q. Let me simplify it. | 10:54:00 18 | Q. Do you agree that engineers and corporations |
| 10:51:47 18 | | 10:54:02 19 | they work for should not suppress research regarding |
| 10:51:47 18 10:51:48 19 | You agree with me that it's unethical for an | | human safety? |
| | You agree with me that it's unethical for an engineer to ignore a potential problem that could be a | 10:54:06 20 | |
| | engineer to ignore a potential problem that could be a risk to human welfare. | | |
| 10:51:48 19 10:51:51 20 10:51:53 21 | engineer to ignore a potential problem that could be a risk to human welfare. | 10:54:07 21 | MR. GOSS: Object to form. |
| 10:51:48 | engineer to ignore a potential problem that could be a | | MR. GOSS: Object to form. A. I agree. |
| 10:51:48 19 10:51:51 20 10:51:53 21 | engineer to ignore a potential problem that could be a risk to human welfare. MR. GOSS: Object to form. A. Yes. | 10:54:07 21 10:54:08 22 10:54:26 23 | MR. GOSS: Object to form. A. I agree. Q. Now you agree with me that engineers and |
| 10:51:48 19 10:51:51 20 10:51:53 21 10:51:56 22 10:51:57 23 | engineer to ignore a potential problem that could be a risk to human welfare. MR. GOSS: Object to form. A. Yes. Q. I mean, at the end, what we do as engineers, | 10:54:07 21 10:54:08 22 | MR. GOSS: Object to form. A. I agree. Q. Now you agree with me that engineers and their corporations should warn the public of potential |
| 10:51:48 19 10:51:51 20 10:51:53 21 10:51:56 22 10:51:57 23 10:52:08 24 | engineer to ignore a potential problem that could be a risk to human welfare. MR. GOSS: Object to form. A. Yes. | 10:54:07 21 10:54:08 22 10:54:26 23 10:54:28 24 | MR. GOSS: Object to form. A. I agree. Q. Now you agree with me that engineers and |

| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 23 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|---|---|---|--|
| | 81 | | 83 |
| 10:54:38 1 | in the public. | 10:56:30 | |
| 10:54:40 2 | A. Yes. | 10:56:41 2 | MR. ASSAAD: What were they? |
| 10:54:40 3 | MR. GOSS: I'm going to object that | 10:56:42 3 | A. Yeah. |
| 10:54:41 4 | warnings are beyond the scope of his opinions in this | 10:56:43 4 | Q. Well the four depositions you've read; |
| 10:54:43 5 | case. | 10:56:44 5 | correct? |
| 10:54:43 6 | With that objection, you can answer. | 10:56:46 6 | Correct? |
| 10:54:45 7 | Q. So you agree? | 10:56:48 7 | A. Yes. |
| 10:54:46 8 | A. Yes. | 10:56:49 | Q. Okay. |
| 10:54:51 9 | Q. Do you agree with Dr. Kuehn's teaching in | 10:56:51 | A. And also |
| 10:54:57 10 | his in his PowerPoint that nine of the most | 10:56:51 10 | Q. Which was of Elghobashi and Dan |
| 10:55:01 11 | dangerous words in the English language are "if I | 10:56:53 11 | Koenigshofer; correct? |
| 10:55:03 12 | ignore it, maybe it'll go away"? | 10:57:00 12 | A. Yeah. Kuehn, Elghobashi and Koenigshofer, |
| 10:55:06 13 | MR. GOSS: Object to form. | 10:57:02 13 | those are the three that I read. And the expert |
| 10:55:09 14 | A. I don't even know what you're asking me at | 10:57:08 14 | reports. |
| 10:55:23 15 | this point. | 10:57:08 15 | Q. Okay. Is there any documents or research or |
| 10:55:25 16 | I don't know anything about Professor | 10:57:11 16 | references that you reviewed and that you're relying |
| 10:55:28 17 | Kuehn's teachings, I have not read his lectures, and | 10:57:15 17 | upon to support your opinions that are not part of the |
| 10:55:30 18 | I'm not going to comment on that. | 10:57:18 18 | references in front of me today? |
| 10:55:32 19 | Q. Have you read his deposition? | 10:57:22 19 | A. There were some videos that were that I |
| 10:55:33 20 | A. I read the deposition. | 10:57:24 20 | looked up myself and that were provided to me. |
| 10:55:34 21 | Q. Do you remember he said, nine of the most | 10:57:29 21 | Q. What videos? |
| 10:55:35 22 | dangerous words in the English language are, "if I | 10:57:31 22 | A. And I only know these by I don't by |
| 10:55:39 23 | ignore it, maybe it'll go away"? | 10:57:34 23 | particular names, because YouTube videos are kind of |
| 10:55:40 24 | MR. GOSS: Object to form. | 10:57:39 24 | hard to define. But videos showing the use of the |
| 10:55:41 25 | Q. Do you remember him saying that in his STIREWALT & ASSOCIATES | 10:57:42 25 | neutral buoyancy bubble technique in investigating STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 82 | | 84 |
| 10:55:43 | deposition? | 10:57:48 | 84 operating room airflows, and videos showing laser |
| 10:55:43 1 10:55:43 2 | deposition? A. It was a very long deposition. I don't | 10:57:48 1 10:57:53 2 | operating room airflows, and videos showing laser |
| | deposition? | _ | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant |
| 10:55:43 2 | deposition? A. It was a very long deposition. I don't | 10:57:53 2 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant |
| 10:55:43 2 10:55:45 3 | deposition? A. It was a very long deposition. I don't remember that | 10:57:53 2 10:58:03 3 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant bubbles. |
| 10:55:43 2 10:55:45 3 10:55:45 4 | deposition? A. It was a very long deposition. I don't remember that Q. Okay. | 10:57:53 2 10:58:03 3 10:58:03 4 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant bubbles. Q. And when were |
| 10:55:43 2 10:55:45 3 10:55:45 4 10:55:45 5 | deposition? A. It was a very long deposition. I don't remember that Q. Okay. A specific point. | 10:57:53 2 10:58:03 3 10:58:03 4 10:58:03 5 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant bubbles. Q. And when were (Interruption by the reporter.) |
| 10:55:43 2 10:55:45 3 10:55:45 4 10:55:45 5 10:55:47 6 | deposition? A. It was a very long deposition. I don't remember that Q. Okay. A specific point. Q. If you don't remember, you don't remember. | 10:57:53 2 10:58:03 3 10:58:03 4 10:58:03 5 10:58:04 6 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant bubbles. Q. And when were (Interruption by the reporter.) Q. Now when were these videos provided to you? |
| 10:55:43 2 10:55:45 3 10:55:45 4 10:55:45 5 10:55:47 6 10:55:48 7 | deposition? A. It was a very long deposition. I don't remember that Q. Okay. A specific point. Q. If you don't remember, you don't remember. Now is everything you reviewed in this case, | 10:57:53 2 10:58:03 3 10:58:03 4 10:58:03 5 10:58:04 6 10:58:08 7 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant bubbles. Q. And when were (Interruption by the reporter.) Q. Now when were these videos provided to you? A. Some of these videos were provided to me by |
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| 10:55:43 2 10:55:45 3 10:55:45 4 10:55:45 5 10:55:47 6 10:55:48 7 10:55:58 8 10:56:01 9 10:56:04 10 10:56:08 11 10:56:13 12 10:56:16 13 10:56:20 15 10:56:21 16 10:56:22 16 10:56:23 17 10:56:26 18 10:56:26 19 10:56:26 20 | A. It was a very long deposition. I don't remember that Q. Okay. A specific point. Q. If you don't remember, you don't remember. Now is everything you reviewed in this case, besi I mean, besides the depositions and the expert reports that we discussed, these documents that were handed to me today, which we'll mark, and what's in your references in your report? A. Let's go through that list again, please. Q. Okay. Maybe we'll do this. You re Okay. Let's go to your report. You reviewed all the references in your report; correct? A. Of course. Q. Okay. And you've also brought to me today A. Yes. Q four, five documents | 10:57:53 2 10:58:03 3 10:58:03 4 10:58:04 6 10:58:08 7 10:58:10 8 10:58:10 10 10:58:21 11 10:58:21 12 10:58:31 12 10:58:31 12 10:58:47 14 10:58:49 15 10:58:50 16 10:58:51 18 10:58:51 19 10:58:55 19 10:58:57 20 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant bubbles. Q. And when were (Interruption by the reporter.) Q. Now when were these videos provided to you? A. Some of these videos were provided to me by 3M's counsel at the beginning of I would say in early April. Q. Okay. A. But there was a 3M video on draping, draping, and a video, basically a advertisement of the HotDog patient warmer. Q. Are you aware of any other patient-warming systems? A. I saw the names of some others, but I don't know anything about them. Q. So you don't you've never seen the Mistral system or the Warm Air? A. I have not seen these systems. |
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| 10:55:43 2 10:55:45 3 10:55:45 4 10:55:45 5 10:55:47 6 10:55:48 7 10:55:58 8 10:56:01 9 10:56:04 10 10:56:08 11 10:56:13 12 10:56:16 13 10:56:20 15 10:56:21 16 10:56:23 17 10:56:26 18 10:56:26 19 10:56:26 20 10:56:27 21 10:56:27 22 10:56:27 23 | A. It was a very long deposition. I don't remember that Q. Okay. A specific point. Q. If you don't remember, you don't remember. Now is everything you reviewed in this case, besi I mean, besides the depositions and the expert reports that we discussed, these documents that were handed to me today, which we'll mark, and what's in your references in your report? A. Let's go through that list again, please. Q. Okay. Maybe we'll do this. You re Okay. Let's go to your report. You reviewed all the references in your report; correct? A. Of course. Q. Okay. And you've also brought to me today A. Yes. Q four, five documents A. Yes. Q that was given to you by counsel A. Yes. | 10:57:53 2 10:58:03 3 10:58:03 4 10:58:03 5 10:58:04 6 10:58:08 7 10:58:10 8 10:58:12 10 10:58:22 11 10:58:31 12 10:58:31 12 10:58:31 12 10:58:47 14 10:58:49 15 10:58:50 16 10:58:52 17 10:58:53 18 10:58:55 19 10:58:57 20 10:58:58 21 10:59:07 23 | operating room airflows, and videos showing laser sheet imaging of I believe of neutrally buoyant bubbles. Q. And when were (Interruption by the reporter.) Q. Now when were these videos provided to you? A. Some of these videos were provided to me by 3M's counsel at the beginning of I would say in early April. Q. Okay. A. But there was a 3M video on draping, draping, and a video, basically a advertisement of the HotDog patient warmer. Q. Are you aware of any other patient-warming systems? A. I saw the names of some others, but I don't know anything about them. Q. So you don't you've never seen the Mistral system or the Warm Air? A. I have not seen these systems. Q. VitaHEAT, does that sound familiar? A. No, sir. Q. Are you relying on those videos in any way |
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|---|--|---|--|--|---|
| .50:10 1 | Q. | Umm-hmm. | 11:01:05 1 | Α. | All right. So then the order of accuracy in |
| :59:12 1 | | | 11:01:25 | | |
| 59:14 2 | A. | The only one of those videos that I'm | 11:01:30 2 | | of a complex turbulent flow is RANS, |
| 9:17 3 | | o support upon to support my case would be | 11:01:35 | Reynolas | s-averaged Navier-Stokes. |
| 9:21 4 | | ing video that we used in order to understand | 11:01:38 4 | | THE WITNESS: I can spell that if you like. |
| 59:25 | | rape the patient or the mannequin that we | 11:01:38 5 | | THE REPORTER: On a break. |
| 59:31 6 | used. | | 11:01:38 6 | | THE WITNESS: On break. |
| i9:31 7 | Q. | What mannequin did you use? | 11:01:44 7 | Α. | That would be the least accurate for a |
| 9:36 8 | Α. | I don't have a specific model or | 11:01:46 | complex | turbulent flow. And the next level of |
| 9:39 | manufac | turer number, I'd have to look that up. | 11:01:50 | accuracy | would be Large-Eddy Simulation, LES. And th |
| 9:42 10 | Q. | Was it plastic, was it | 11:01:55 10 | most acc | curate for complex turbulent flow, if it's |
| 9:44 11 | A. | Plas | 11:01:59 11 | feasible, | would be direct numerical simulation, DNS. |
| 9:44 12 | | Foam plastic. | 11:02:04 12 | Q. | Do you know any of your any of your |
| 9:48 13 | Q. | Did you see Abraham's CFD video? | 11:02:05 13 | colleague | es do DNS? |
| 9:58 14 | A. | Yes. I saw that video. | 11:02:07 14 | Ä. | Yes, I know people who do DNS. |
| 9:58 15 | Q. | Okay. Are you familiar with CFD? | 11:02:09 15 | Q. | Do you do DNS? |
| 0:01 16 | Α. | Yes. | 11:02:10 16 | Α. | No, sir. |
| 0:02 17 | Q. | Do you consider yourself an expert in CFD? | 11:02:10 17 | Q. | Do you do LES? |
| 0:02 17 | Q . Α. | Let's put it this way. My expertise is in | 11:02:10 17 | Q. А. | No, I've never done LES. |
| 0:05 10 | | | 11:02:12 10 | _ | So you don't hold yourself out as an expert |
| | | ental fluid dynamics, but I have a familiarity | | Q. | · |
| 0:11 20 | | nputational fluid dynamics. | 11:02:16 20 | | pect to CFD for this case; correct? |
| 0:14 21 | | So if I asked you to do a CFD model of this | 11:02:18 21 | Α. | |
| 0:21 22 | | th all the bells and whistles such as what | 11:02:19 22 | Q. | This case. |
| 0:23 23 | _ | shi did, or even Abraham did, is that something | 11:02:19 23 | A. | this case. |
| 0:26 24 | you coul | d do? | 11:02:20 24 | | No, I don't. |
| 00:28 25 | A. | Now by myself I would not attempt to do a | 11:02:21 25 | Q. | Okay. Have you read Elghobashi's resume, |
| | | STIREWALT & ASSOCIATES | | | STIREWALT & ASSOCIATES |
| | , | 1-800-553-1953 info@stirewalt.com | | 1 | -800-553-1953 info@stirewalt.com |
| | CC | ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORD |
| | | 86 | | | 88 |
| 0:30 | large co | | | | |
| | iai ye-sca | ale CFD. | 11:02:32 | Dr. Elgho | bbashi's resume? |
| 0:33 2 | _ | ale CFD. Do you know the difference between RANS, LES | 11:02:32 1 11:02:35 2 | | obashi's resume? Not in detail, no. |
| | _ | Do you know the difference between RANS, LES | _ | | |
| 0:36 3 | Q. | Do you know the difference between RANS, LES | 11:02:35 | A. | Not in detail, no. |
| 0:36 3 0:38 4 | Q. and DNS | Do you know the difference between RANS, LES | 11:02:35 2 11:02:36 3 | A. Q. | Not in detail, no. But you've skimmed it, |
| 0:36 3 0:38 4 0:38 5 | Q. and DNS | Do you know the difference between RANS, LES? Yes. | 11:02:35 2 11:02:36 3 11:02:37 4 | A. Q. A. | Not in detail, no. But you've skimmed it, Yes. |
| 0:36 3 0:38 4 0:38 5 0:41 6 | Q. and DNS A. Q. | Do you know the difference between RANS, LES? Yes. Which is the better of the three? "Better." Would you define what you mean by | 11:02:35 2 11:02:36 3 11:02:37 4 11:02:38 5 | A. Q. A. Q. | Not in detail, no. But you've skimmed it, Yes looked at |
| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 | Q. and DNS A. Q. A. | Do you know the difference between RANS, LES? Yes. Which is the better of the three? "Better." Would you define what you mean by | 11:02:35 2 11:02:36 3 11:02:37 4 11:02:38 5 11:02:39 6 | A. Q. A. Q. | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with |
| 0:36 | Q. and DNS A. Q. A. "better"? | Do you know the difference between RANS, LES Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, | 11:02:35 2 11:02:36 3 11:02:37 4 11:02:38 5 11:02:39 6 11:02:41 7 | A. Q. A. Q. | Not in detail, no. But you've skimmed it, Yes. looked at Do you agree that he's an expert with o particle flow in turbulence? |
| 0:36 | Q. and DNS A. Q. A. "better"? Q. real-life | Do you know the difference between RANS, LES ?? Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? | 11:02:35 | A. Q. A. Q. respect t | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an |
| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 0:47 8 0:49 9 0:51 10 | Q. and DNS A. Q. A. "better"? Q. real-life A. | Do you know the difference between RANS, LES Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, | 11:02:35 2 11:02:36 3 11:02:37 4 11:02:38 5 11:02:39 6 11:02:41 7 11:02:50 8 11:02:51 9 11:02:54 10 | A. Q. A. Q. respect t | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. |
| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 8 0:49 9 0:51 10 | Q. and DNS A. Q. A. "better"? Q. real-life A. asking? | Do you know the difference between RANS, LES ?? Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? In In what sort of a flow would you be | 11:02:35 | A. Q. A. Q. respect t A. expert in Q. | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. Okay. Have you heard of the Elghobashi mag |
| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 0:47 8 0:49 9 0:51 10 0:54 11 | Q. and DNS A. Q. A. "better"? Q. real-life A. asking? Q. | Do you know the difference between RANS, LES ?? Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? In In what sort of a flow would you be Any flow. | 11:02:35 | A. Q. A. Q. respect t A. expert in Q. A. | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. |
| 0:36 3 0:38 4 0:38 5 0:38 6 0:41 6 0:46 7 0:47 8 0:49 9 0:51 10 0:54 11 0:54 12 0:57 13 | Q. and DNS A. Q. A. "better"? Q. real-life A. asking? Q. A. | Do you know the difference between RANS, LES Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? In In what sort of a flow would you be Any flow. Laminar flow. | 11:02:35 | A. Q. A. Q. respect to A. expert in Q. A. record. | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. Okay. Have you heard of the Elghobashi map |
| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 0:47 8 0:49 9 0:51 10 0:54 11 0:54 12 0:59 14 | Q. and DNS A. Q. A. "better"? Q. real-life A. asking? Q. A. | Do you know the difference between RANS, LES ?? Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? In In what sort of a flow would you be Any flow. Laminar flow. Any flow; turbulent, laminar, waves in an | 11:02:35 | A. Q. A. Q. respect to A. expert in Q. A. record. Q. | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. Okay. Have you heard of the Elghobashi map Only in that it came up in the deposition Do you know that Elghobashi's map is one of |
| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 0:47 8 0:49 9 0:51 10 0:54 11 0:54 12 0:57 13 0:59 14 1:03 15 | Q. and DNS A. Q. A. "better"? Q. real-life A. asking? Q. A. | Do you know the difference between RANS, LES ?? Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? In In what sort of a flow would you be Any flow. Laminar flow. Any flow; turbulent, laminar, waves in an Any flow. | 11:02:35 | A. Q. A. Q. respect to A. expert in Q. A. record. Q. the cruci | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. Okay. Have you heard of the Elghobashi map Only in that it came up in the deposition Do you know that Elghobashi's map is one of al mathematical equations used for coupling |
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| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 0:47 8 0:49 9 0:51 10 0:54 11 0:54 12 0:57 13 0:59 14 1:03 15 1:04 16 1:06 17 | Q. and DNS A. Q. A. "better"? Q. real-life A. asking? Q. A. Q. ocean. | Do you know the difference between RANS, LES ?? Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? In In what sort of a flow would you be Any flow. Laminar flow. Any flow; turbulent, laminar, waves in an Any flow. Which is the most accurate with respect to eling and calculations? | 11:02:35 | A. Q. A. Q. respect to A. expert in Q. A. record. Q. the cruci with resp. A. | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. Okay. Have you heard of the Elghobashi map Only in that it came up in the deposition Do you know that Elghobashi's map is one of all mathematical equations used for coupling sect to particle flow that's used today? I was not aware of that. |
| 0:36 3 0:38 4 0:38 5 0:41 6 0:46 7 0:47 8 0:49 9 0:51 10 0:54 11 0:54 12 0:57 13 0:59 14 1:03 15 1:04 16 1:06 17 | Q. and DNS A. Q. A. "better"? Q. real-life A. asking? Q. Q. ocean. A. the mode | Do you know the difference between RANS, LES ?? Yes. Which is the better of the three? "Better." Would you define what you mean by Which gives you the most realistic, results? In In what sort of a flow would you be Any flow. Laminar flow. Any flow; turbulent, laminar, waves in an Any flow. Which is the most accurate with respect to eling and calculations? Well if it's a laminar flow those methods | 11:02:35 | respect to A. expert in Q. A. record. Q. the cruci with resp. A. Q. | Not in detail, no. But you've skimmed it, Yes looked at Do you agree that he's an expert with o particle flow in turbulence? "Particle flow." My impression of Dr. Elghobashi is he is an computational fluid dynamics. Okay. Have you heard of the Elghobashi map Only in that it came up in the deposition Do you know that Elghobashi's map is one of all mathematical equations used for coupling sect to particle flow that's used today? I was not aware of that. Do you know the difference between single |
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| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | . 823-8 | Filed 09/12/17 Page 25 of 90 |
|--|---|---|---|
| | | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | A No. | | 91 |
| 11:03:34 | A. No. | 11:05:22 | A. I'd have to go back and have a look at Dr. |
| 11:03:34 2 | Q. Okay. Have you reviewed his report? | 11:05:28 2 | Abraham's report to comment on that. |
| 11:03:36 | A. Yes. | 11:05:30 | Q. Okay. |
| 11:03:37 4 | Q. Do you agree that there's nothing in the | 11:05:39 4 | MR. ASSAAD: We can take a break. |
| 11:03:39 5 | report that shows particle flow, it's mostly just | 11:05:41 5 | THE REPORTER: Off the record, please. |
| 11:03:41 6 | streamlines of air; correct? | 11:05:43 6 | (Recess taken from 11:05 to 11:17 a.m.) |
| 11:03:46 7 | A. I'm unsure. I know it shows streamlines. | 11:05:43 7 | (Settles Exhibits 1 & 2 marked for |
| 11:03:48 | I'm not sure whether particles were involved. | 11:05:43 | identification.) |
| 11:03:50 9 | Q. You agree with me that based on your | 11:05:43 | BY MR. ASSAAD: |
| 11:03:53 10 | experimental fluid dynamics that particles do not | 11:17:13 10 | Q. Mr. Settles, what's been marked as Exhibit 1 |
| 11:03:55 11 | follow streamlines or airflow. | 11:17:16 11 | is your expert report that we received on June 2nd, |
| 11:03:58 12 | A. They can follow. | 11:17:19 12 | 2017. Do you agree with that? |
| 11:03:59 13 | Q. If they're very small | 11:17:23 13 | A. One moment, please. |
| 11:04:00 14 | A. All right. | 11:17:36 14 | Q. I think if you go to page 12 it will |
| 11:04:01 15 | Q and they have very little mass; correct? | 11:17:38 15 | indicate that it has the schlieren image of the feet |
| 11:04:03 16 | A. I'll agree with that. | 11:17:40 16 | and the legs? |
| 11:04:05 17 | Q. Okay. Particles have inertia. | 11:17:42 17 | A. (Witness reviewing exhibit.) Yes. |
| 11:04:06 18 | A. Particles have inertia. | 11:17:47 18 | Q. Okay. And what's been marked as Exhibit 2, |
| 11:04:08 19 | Q. Okay. For example, if I had a 15-micron | 11:17:50 19 | also dated June 1st, 2017 is your revised report; |
| 11:04:15 20 | particle that's following the airstream against the | 11:17:53 20 | correct? |
| 11:04:18 21 | wall, that particle is going to follow the wall even | 11:17:56 21 | A. Well the date's not correct on the revised |
| 11:04:20 22 | though the airstream might turn down, based on | 11:17:59 22 | report. This was more like the middle of June. |
| 11:04:23 23 | inertia; correct? | 11:18:04 23 | Q. I agree. I did not I did not alter your |
| 11:04:24 24 | A. Correct. | 11:18:07 24 | report. This was what was provided to us. |
| 11:04:25 25 | Q. Okay. | 11:18:09 25 | A. Oh, my. Yeah. I see. |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | | | |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 90 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 92 |
| 11:04:27 1 | | 11:18:11 1 | |
| 11:04:27 1 11:04:29 2 | 90 | 11:18:11 1 11:18:13 2 | 92 |
| | 90 MR. GOSS: We've been going about 90 | _ | 92 So the date on the cover was not changed. |
| 11:04:29 2 | 90 MR. GOSS: We've been going about 90 minutes, if we can take a break when you reach a | 11:18:13 2 | 92 So the date on the cover was not changed. Q. What should the date be? |
| 11:04:29 2 11:04:29 3 | 90 MR. GOSS: We've been going about 90 minutes, if we can take a break when you reach a MR. ASSAAD: Okay. | 11:18:13 2 11:18:18 3 | 92 So the date on the cover was not changed. Q. What should the date be? A. Approximately June 18. I'm not I don't |
| 11:04:29 2 11:04:29 3 11:04:31 4 | 90 MR. GOSS: We've been going about 90 minutes, if we can take a break when you reach a MR. ASSAAD: Okay. MR. GOSS: convenient spot, let us know. BY MR. ASSAAD: Q. You agree with me that airstreams or | 11:18:13 2 11:18:18 3 11:18:20 4 | 92 So the date on the cover was not changed. Q. What should the date be? A. Approximately June 18. I'm not I don't have an exact number. |
| 11:04:29 2 11:04:29 3 11:04:31 4 11:04:31 5 | 90 MR. GOSS: We've been going about 90 minutes, if we can take a break when you reach a MR. ASSAAD: Okay. MR. GOSS: convenient spot, let us know. BY MR. ASSAAD: Q. You agree with me that airstreams or pathways with air do not follow turbulence, turbulence | 11:18:13 2 11:18:18 3 11:18:20 4 11:18:24 5 | So the date on the cover was not changed. Q. What should the date be? A. Approximately June 18. I'm not I don't have an exact number. Q. And to be fair, I will look at the file name because I believe it has the date on it. [Reviewing computer.] |
| 11:04:29 2 11:04:29 3 11:04:31 4 11:04:31 5 11:04:33 6 11:04:43 7 11:04:48 8 | 90 MR. GOSS: We've been going about 90 minutes, if we can take a break when you reach a MR. ASSAAD: Okay. MR. GOSS: convenient spot, let us know. BY MR. ASSAAD: Q. You agree with me that airstreams or pathways with air do not follow turbulence, turbulence has an effect on particles as well as the airstream; | 11:18:13 | So the date on the cover was not changed. Q. What should the date be? A. Approximately June 18. I'm not I don't have an exact number. Q. And to be fair, I will look at the file name because I believe it has the date on it. [Reviewing computer.] Does June 15th sound more |
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|---|--|--|--|
| | 93 | | 95 |
| 11:19:12 | Q. But why didn't you do that before you | 11:21:20 1 | Q. Do you agree that's one of the assumptions |
| 11:19:14 2 | submitted your final report? | 11:21:21 2 | that Dr. Abraham made in his case? |
| 11:19:15 3 | A. Because I finished writing it just before | 11:21:24 3 | A. If If that assumption's made I don't |
| 11:19:17 4 | the deadline. | 11:21:28 4 | think it's correct. |
| 11:19:19 5 | Q. Okay. You weren't given much time to do the | 11:21:28 5 | Q. Okay. So you |
| 11:19:22 6 | studies, were you? | 11:21:28 6 | So if Dr. Abraham made that assumption, you |
| _ | A. I I wouldn't phrase it that way, but I'd | 11:21:31 7 | would agree that that is not a correct assumption with |
| • | say we were we were late in the game but we had | | respect to how the air flows out of the Bair Hugger |
| | • | | |
| 11:19:29 9 | enough time. | 11:21:37 9 | blanket; correct? |
| 11:19:30 10 | Q. And actually you actually put it in your | 11:21:39 10 | MR. GOSS: Would you need to review his |
| 11:19:34 11 | notes that there wasn't much time to do the studies. | 11:21:42 11 | report? |
| 11:19:39 12 | A. Yeah. I made such | 11:21:42 12 | Q. Just assume that that's his assumption. You |
| 11:19:41 13 | Well actually that referred to, if you look | 11:21:44 13 | agree that's a faulty assumption. |
| 11:19:43 14 | to those notes, we were trying to decide what we could | 11:21:48 14 | A. In my report we saw some air coming out |
| 11:19:49 15 | and could not do within the scope of the effort. And | 11:21:52 15 | around the head and neck. |
| 11:19:54 16 | I was looking at Elghobashi's simulation and saw that | 11:21:53 16 | Q. If Dr. Abraham made the assumption that all |
| 11:19:57 17 | he had done turbulence intensity in particle motion, | 11:21:56 17 | the air that the Bair Hugger generates comes out of |
| 11:20:01 18 | and that referred to the turbulence intensity, there | 11:21:59 18 | the head and neck you agree with me that that is an |
| 11:20:04 19 | just wasn't any way we were going to make such | 11:22:02 19 | incorrect assumption. |
| 11:20:07 20 | measurements with the within the time and scope of | 11:22:10 20 | MR. GOSS: Object to form, foundation. |
| 11:20:09 21 | the effort. | 11:22:13 21 | A. To give you an accurate answer I would have |
| 11:20:11 22 | Q. You were retained in April in this case? | 11:22:18 22 | to go back and look at Dr. Abraham's report. |
| 11:20:13 23 | April of this year? | 11:22:21 23 | Q. Assume |
| 11:20:14 24 | A. Yes. | 11:22:23 24 | Would you agree with this statement: All |
| 11:20:15 25 | Q. Okay. And how | 11:22:24 25 | the air that the Bair Hugger generates comes out from |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 94 | | 96 |
| 11:20:18 1 | Did 3M approach you or approach someone at | 11:22:27 1 | the head and neck area. |
| 11:20:20 2 | FloViz? | 11:22:30 2 | A. Not based on the work that I did, no. |
| 11:20:21 3 | A. Me. | 11:22:33 | Q. And that's because there's holes that go |
| 11:20:22 4 | Q. Okay. Do you know how 3M found you? | 11:22:35 4 | along the entire length of the air of the blanket, |
| 11:20:26 5 | A. I'm the schlieren expert. | 11:22:38 5 | correct, of the Bair Hugger? |
| 11:20:29 6 | Q. Now you looked at the Bair Hugger blanket; | 11:22:40 6 | A. The holes go the entire length of the |
| 11:20:31 7 | correct? | 11:22:42 7 | blanket. |
| 11:20:32 | A. Oh yes. | 11:22:42 8 | Q. Because it's warming the hands and the elbow |
| 11:20:32 | Olean Danier anna mith was that there are | | |
| | Q. Okay. Do you agree with me that there are | 11:22:45 | and the shoulders and the chest and the other arms and |
| 11:20:38 10 | , , , , | | |
| 11:20:38 10 11:20:42 11 | hundreds, if not thousands of perforations in the Bair | 11:22:45 9 11:22:48 10 11:22:49 11 | and the shoulders and the chest and the other arms and hands; correct? Correct? |
| | hundreds, if not thousands of perforations in the Bair Hugger blanket that air flows out of? | 11:22:48 10 | hands; correct? Correct? |
| 11:20:42 11 11:20:44 12 | hundreds, if not thousands of perforations in the Bair Hugger blanket that air flows out of? A. Many perforations, yes. | 11:22:48 10 11:22:49 11 | hands; correct? Correct? A. The one we looked at, which is upper body |
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| | | 97 | | | 99 |
| 11:23:28 1 | A. | It was the | 11:26:09 1 | Exhibit 2 - | . |
| 11:23:29 2 | | It was not for a division, but was for the | 11:26:11 2 | Α. | All right. Page 22? |
| 11:23:32 3 | 3M Tech | Forum, which is a company-wide seminar series, | 11:26:13 | | Yes. I want you to turn to reference number |
| 11:23:39 4 | as I unde | • • | 11:26:20 4 | 25. | |
| 11:23:40 5 | _ | And what was your seminar pertaining to? | 11:26:22 5 | A. ' | Yes |
| • | | Well schlieren visualization of thermal | 11:26:25 6 | _ | Okay. It says "Verification and validation |
| 11:23:44 | flows and | | _ | | ational fluid dynamics"; correct? |
| 11:23:47 | | | | | |
| • | | Do you know whether or not 3M has schlieren | | | That is it, yes. |
| 11:23:50 9 | _ | their labs? | 11:26:34 9 | _ | Okay. Did you read the entire article? |
| 11:23:52 10 | | I believe they do have a schlieren optical | 11:26:35 10 | | I certainly have read it in the past. I |
| 11:23:55 11 | system. | | 11:26:37 11 | | t for recently. |
| 11:23:56 12 | Q. | Okay. | 11:26:38 12 | | Okay. Do you subscribe to the <i>Progress in</i> |
| 11:24:01 13 | | I saw their system. | 11:26:42 13 | Aerospace | Sciences? |
| 11:24:02 14 | Q. | Have you read Dr. Kuehn's dep Kuehn's | 11:26:42 14 | Α. | I'm an author of papers in that journal. |
| 11:24:04 15 | depositio | n where Dr. Kuehn testified that very few | 11:26:45 15 | Q. | Do you know Oberkampf or Trucano? |
| 11:24:14 16 | engineer | s use schlieren testing currently? | 11:26:49 16 | Α. | I know Bill Oberkampf very well. I don't |
| 11:24:17 17 | A. | I did see that. | 11:26:52 17 | know Truc | cano. |
| 11:24:18 18 | Q. | Is that a correct statement? | 11:26:53 18 | Q. | Did you talk to him about this case? |
| 11:24:20 19 | A. | No. | 11:26:54 19 | Α. | No, absolutely not. |
| 11:24:21 20 | Q. | Do you think a lot of engineers use | 11:26:55 20 | | Did you talk to anybody about this case |
| 11:24:23 21 | schlieren | | 11:26:57 21 | | and and your colleagues at FloViz? |
| 11:24:23 22 | | Yes. | 11:26:59 22 | · - | No. |
| 11:24:24 23 | | Okay. If 3M performed schlieren testing on | 11:27:01 23 | | Okay. What is the difference between |
| 11:24:33 24 | | Hugger, would that information be relevant to | 11:27:04 24 | - | n and validation? |
| 11:24:36 25 | | the Bair Hugger blanket 522. | 11:27:04 25 | | All right. This is a complicated subject so |
| 11:24:36 | you: On | STIREWALT & ASSOCIATES | 11:27:06 23 | Α. / | STIREWALT & ASSOCIATES |
| | 4 | | | 1 (| |
| | | -800-553-1953 info@stirewalt.com | | | 800-553-1953 info@stirewalt.com |
| | CO | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 98 | | CON | IFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 1 | ^ | | | _ | 100 to try to give you a concise answer. If a |
| 11:24:40 1 | | | 1 | I'm going | to the to dive you a concise answer. If a |
| | | Well, I'm speculating. I'm not aware that | 11:27:15 | | |
| 11:24:45 2 | they perf | formed any schlieren image. | 11:27:22 2 | code is wr | itten there is a question in it whether the |
| 11:24:47 3 | they perf Q . | formed any schlieren image. But if they did do some testing would that | 11:27:22 2 11:27:25 3 | code is wr equations | itten there is a question in it whether the have been coded correct. And one of the |
| 11:24:47 3 11:24:49 4 | they perf Q. informati | Formed any schlieren image. But if they did do some testing would that ion be relevant to you? | 11:27:22 2 11:27:25 3 11:27:30 4 | code is wr equations very first t | itten there is a question in it whether the have been coded correct. And one of the things that has to happen is to verify, |
| 11:24:47 3 11:24:49 4 | they perf Q. informati A. | Formed any schlieren image. But if they did do some testing would that fon be relevant to you? I'd have to look at the information in order | 11:27:22 2 11:27:25 3 11:27:30 4 11:27:33 5 | code is wr equations very first t usually by | itten there is a question in it whether the have been coded correct. And one of the things that has to happen is to verify, comparing the results of that code with a |
| 11:24:47 3 11:24:49 4 11:24:50 5 | they perf Q. informati A. to determ | Formed any schlieren image. But if they did do some testing would that son be relevant to you? I'd have to look at the information in order nine relevance. | 11:27:22 2 11:27:25 3 11:27:30 4 | code is wr equations very first t usually by known and | itten there is a question in it whether the have been coded correct. And one of the things that has to happen is to verify, comparing the results of that code with a alytical solution of a flow or some |
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| 11:24:47 | they performation of the performation of the performation of the performation of the performance of the perf | But if they did do some testing would that on be relevant to you? I'd have to look at the information in order nine relevance. And you agree with me that Strike that Let's touch back on CFD. You criticized this result because of his vali he didn't alidation; correct? That was one criticism. And you cited an article Which report do you want to use for this hibit 1 or Exhibit 2? Let's use Exhibit 2. Okay. By the way, did the fact that you used a subpoena to produce all your notes and affect your edits with respect to Exhibit 2? No. Okay. So were you expecting a subpoena to red that you would have to produce your notes ares in this case? Not exactly. I I was not. Okay. So if you go to the references in | 11:27:22 | code is wr equations very first to usually by known and experiment to find out And beyongood job could be so refree fro process. Q. A. Q. A. Ittle more the coding necessary simulation for a particular control of the coding for a particular control of the coding for a particular control of the coding for a particular coding for a particular coding code code code code code code code code | itten there is a question in it whether the have been coded correct. And one of the chings that has to happen is to verify, comparing the results of that code with a alytical solution of a flow or some stall evidence that is beyond reproach in order to whether errors can be found in the code. In discretizing these unimpeachable sources it aid that the code itself has been verified, morers. That's one step in a big So verification is for the code. Yes. Fair enough. Yes. Okay. Validation. Validation. Now this is where it gets a complicated. There are steps beyond just to of the equations that are absolutely in order to have a proper computational in For example, a grid has to be developed cular problem, and if there are problems rid there will be problems with the |
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| 11:28:54 | solution. So this goes beyond just the coding of the equations. And grid itself is it's a long issue in the literature. Q. And meshing is very important; correct? A. Mesh or grid is very important. It's does it converge does the code converge with this mesh, is the result mesh independent, and is the mesh adequately described or adequately built to get a proper solution. And this would be a mesh validation step or mesh mesh verification step. And then one has the boundary conditions. And the boundary conditions have to be specified in order to get a general computational code to produce a solution for a specific problem. If the boundary conditions are not properly specified, the code will solve a different problem than the one at hand. And so in validation steps one might test | 11:31:32 | Do you know the code that Abraham used? A. I only know that it was a RANS code, R-A-N-S. Q. And why do you think it was RANS? A. Well I think that's what he said it was. Q. Okay. Do you think RANS is appropriate to run a turbulent model in an operating room? A. That is That's an oversimplifi oversimplification, but okay. Many, many solutions of many flows are run with Reynolds-averaged Navier-Stokes codes and reasonable solutions are obtained even though there are some pretty serious approximations in there. Q. You agree with me that a lot of the code that's used by RANS is usually verified by LES first. A. In my experience of u the verification is |
| 11:30:03 17 11:30:09 18 11:30:15 19 11:30:19 20 11:30:22 21 11:30:28 22 11:30:34 23 11:30:35 24 11:30:36 25 | the code, the grid, and the boundary conditions to predict a flow that has been developed experimentally or been measured experimentally as a validation experiment, and therefore is available for comparison with computational results. Is Am I answering your question? Q. I got it. So you would agree with me, you have no STIREWALT & ASSOCIATES | 11:32:28 17 11:32:32 18 11:32:36 19 11:32:41 20 11:32:41 21 11:32:42 22 11:32:46 23 11:32:48 24 11:32:52 25 | usually by experiment. Nowadays you can verify a simpler code like RANS by running an LES code to compare with it. Q. And the same thing: You could verify an LES code by running a DNS code. A. If it was possible to do so, yes. Q. Okay. And it seems like you're very familiar with the different types of modeling. You STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 102 | | 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 104 |
| 11:30:38 | issue with the verification of the code that Elghobashi used; correct? A. I do have issue. Q. What's the issue with the verification? Do you know what code he used? A. Do I know what? Q. What code he used. A. He I don't know anything about the code except that he was it was developed at Stanford and | 11:32:55 | agree with me that DNS code has limitations, and the main limitation is computer cores. A. Or to put it another way, that in this era it will only handle low Reynolds number flows, and you couldn't use a DNS code to compute flow over a full-scale jet liner. Q. Because the the ability to compute is based on the cube of the Reynolds number; correct? A. Yes. |
| 11:31:00 10 11:31:04 11 11:31:05 12 11:31:05 13 11:31:08 14 11:31:10 15 11:31:12 16 11:31:17 17 11:31:19 18 | it was run for him by a colleague who is no longer at his university. Q. Okay. A. But it's an LES code. Q. Okay. And do you know whether or not that code has been verified? A. Oh, all right. I I believe that there was good evidence that the code had been verified. Q. Okay. So you have no issue with the code | 11:33:26 10 11:33:30 11 11:33:32 12 11:33:32 13 11:33:33 14 11:33:35 15 11:33:38 16 11:33:42 17 11:33:47 18 | Q. Okay. So you agree with me that the You understand that Elghobashi used LES; correct? A. I do. Q. You agree that the LES is more accurate than the RANS, which you've testified earlier. A. In In many cases, yes. I'm not certain that LES is required for the solution of flows in an operating room, but it certainly wouldn't be a poorer |
| 11:31:29 10 11:31:21 19 11:31:22 20 11:31:24 21 11:31:24 22 11:31:25 23 11:31:28 24 11:31:29 25 | being verified by Elghobashi. A. I am sorry. I have no issue with the verification Q. Okay. A of the code. That's right. Q. Okay. And in fact do you know whether or not the code is STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | 11:33:50 19 11:33:52 20 11:33:56 21 11:34:02 22 11:34:04 23 11:34:06 24 11:34:07 25 | solution than a RANS solution. Q. Okay. You understand that Elghobashi testified that it was the turbulence that had a major effect the turbulence intensity which had an effect on the particle movement in the operating room. You understand that; correct? A. I do. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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|---|--|--|---|
| | 105 | | 107 |
| 4 | | | A. I am not. |
| 11:34:07 | Q. And you agree with me that LES is much more | 11:35:41 | |
| 11:34:09 2 | accurate with respect with respect to turbulence | 11:35:42 2 | Q. Okay. Now we've talked about you agree that |
| 11:34:12 | than RANS. | 11:35:45 | Elghobashi's code has been verified; correct? |
| 11:34:14 4 | A. It is more accurate than RANS. | 11:35:48 4 | A. The code itself, yes. |
| 11:34:16 5 | Q. Okay. And also a very important thing with | 11:35:49 5 | Q. Okay. The validation. Now do you think |
| 11:34:18 6 | LES is what you use for the sub-grid; correct? | 11:35:56 | that the paper written by Oberkampf and Trucano, |
| 11:34:20 7 | A. Yes. | 11:36:06 7 | reference number 25, states that in every single situ |
| 11:34:22 | Q. Do you know what the sub-grid is? | 11:36:09 | in every single complex system that validation |
| 11:34:24 | A. Yes. | 11:36:21 9 | requires actual measurements? |
| 11:34:24 10 | Q. Okay. Do you know what Abraham used for the | 11:36:27 10 | A. "Every single complex system." |
| 11:34:25 11 | sub-grid? | 11:36:29 11 | Q. Yes. |
| 11:34:26 12 | A. I don't. | 11:36:33 12 | A. I think there might be some particular |
| 11:34:26 13 | Q. Okay. | 11:36:39 13 | complex systems that experimental measurements were |
| 11:34:27 14 | A. But if I'm if Abraham used a RANS model, | 11:36:42 14 | not required. |
| 11:34:33 15 | there is no sub-grid. | 11:36:43 15 | MR. GOSS: The question was specific to the |
| 11:34:35 16 | Q. Okay. | 11:36:45 16 | Oberkampf paper, number 25; right? |
| 11:34:36 17 | A. That's an LES term. | 11:36:48 17 | MR. ASSAAD: Yes. |
| 11:34:37 18 | Q. Can you take a RANS model and just say let's | 11:36:49 18 | f A. But that's a detail in that paper that I |
| 11:34:43 19 | do LES on it, or do you have to change the mesh? If | 11:36:51 19 | would have to go back and review in order to give a |
| 11:34:47 20 | you know. If you don't know, that's fine. | 11:36:54 20 | definitive answer. That's a big paper. |
| 11:34:51 21 | A. I believe you you have to change the | 11:37:00 21 | Q. And you've read the entire thing before you |
| 11:34:54 22 | code, | 11:37:02 22 | cited it? |
| 11:34:55 23 | Q. The code | 11:37:02 23 | A. I have read it, yes, but I only skimmed it |
| 11:34:56 24 | A not the mesh. | 11:37:06 24 | in preparation for this deposition. |
| 11:34:57 25 | Q and the mesh? | 11:37:27 25 | Q. Go to page 18 of Exhibit 2. You say "there |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 106 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 108 |
| 11:34:58 1 | | 11:37:36 1 | 108 is no validation experiment" under number 1 of your |
| 11:34:58 1 11:34:59 2 | 106 | 11:37:36 1 11:37:39 2 | 108 |
| _ | MR. GOSS: I'm just going to object that we're getting beyond the scope of his opinions. I think in his report he talks about his criticism of | _ | is no validation experiment" under number 1 of your criticism of Elghobashi; correct? A. Yes. |
| 11:34:59 2 | MR. GOSS: I'm just going to object that we're getting beyond the scope of his opinions. I | 11:37:39 2 | is no validation experiment" under number 1 of your criticism of Elghobashi; correct? |
| 11:34:59 2 11:35:02 3 | MR. GOSS: I'm just going to object that we're getting beyond the scope of his opinions. I think in his report he talks about his criticism of | 11:37:39 2 11:37:40 3 | is no validation experiment" under number 1 of your criticism of Elghobashi; correct? A. Yes. Q. And then it states: "The CFD simulation of turbulent flows without any experimental validation is |
| 11:34:59 2 11:35:02 3 11:35:06 4 | MR. GOSS: I'm just going to object that we're getting beyond the scope of his opinions. I think in his report he talks about his criticism of Elghobashi being the experimental validation and the boundary conditions. If you know the answer, go ahead. | 11:37:39 2 11:37:40 3 11:37:42 4 | is no validation experiment" under number 1 of your criticism of Elghobashi; correct? A. Yes. Q. And then it states: "The CFD simulation of turbulent flows without any experimental validation is automatically suspect in the fluid dynamics community, |
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| 11:34:59 2 11:35:02 3 11:35:06 4 11:35:09 5 11:35:11 6 11:35:13 7 11:35:14 8 11:35:15 9 11:35:17 10 | MR. GOSS: I'm just going to object that we're getting beyond the scope of his opinions. I think in his report he talks about his criticism of Elghobashi being the experimental validation and the boundary conditions. If you know the answer, go ahead. Q. Well let's back up a little bit. You want to be objective; correct? A. I do want to be objective. Q. And if you want to if you're going to | 11:37:39 2 11:37:40 3 11:37:42 4 11:37:45 5 11:37:48 6 11:37:52 7 11:37:56 9 11:37:57 10 | is no validation experiment" under number 1 of your criticism of Elghobashi; correct? A. Yes. Q. And then it states: "The CFD simulation of turbulent flows without any experimental validation is automatically suspect in the fluid dynamics community, and is generally not considered publishable until at least some comparative experimental data becomes available." A. Yes. |
| 11:34:59 2 11:35:02 3 11:35:06 4 11:35:09 5 11:35:11 6 11:35:13 7 11:35:14 8 11:35:15 9 11:35:17 10 11:35:20 11 | MR. GOSS: I'm just going to object that we're getting beyond the scope of his opinions. I think in his report he talks about his criticism of Elghobashi being the experimental validation and the boundary conditions. If you know the answer, go ahead. Q. Well let's back up a little bit. You want to be objective; correct? A. I do want to be objective. Q. And if you want to if you're going to criticize Plaintiffs' CFD expert, you should be able | 11:37:39 | is no validation experiment" under number 1 of your criticism of Elghobashi; correct? A. Yes. Q. And then it states: "The CFD simulation of turbulent flows without any experimental validation is automatically suspect in the fluid dynamics community, and is generally not considered publishable until at least some comparative experimental data becomes available." A. Yes. Q. Do you believe that's cited in this paper? |
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|--------------------|--|--------------------|---|
| | 109 | | 111 |
| 11:38:27 | You cited the paper by Oberkampf and Trucano | 11:40:41 1 | used, like DNS, for partial verification of a LES |
| 11:38:34 2 | for that statement that, "The CFD simulation of | 11:40:48 2 | solution. |
| 11:38:39 3 | turbulent flows without any experimental validation is | 11:40:51 3 | Being old school myself, I believe in |
| 11:38:41 4 | automatically suspect in the fluid dynamics community, | 11:40:54 4 | experimental verification. As far as I know, there is |
| 11:38:45 5 | and it's generally not considered publishable until at | 11:40:56 5 | no experimental verification for the flow in a |
| 11:38:49 6 | least some comparative experimental data becomes | 11:41:04 6 | operating room. |
| 11:38:51 7 | available." | 11:41:04 7 | (Interruption by the reporter.) |
| 11:38:51 | Is that in this paper that you've cited? | 11:41:05 | Q. Do you agree with this statement: Because |
| • | A. I cited the paper as a general reference on | 11:41:08 9 | of the infeasibility and impractability of conducting |
| | | 11:41:08 3 | |
| 11:39:00 10 | validation and verification, and I believe that that | | true validation experiments on most complex systems, |
| 11:39:06 11 | is largely correct. | 11:41:16 11 | the recommended method is to use a building-block |
| 11:39:11 12 | Certainly in my experience over a period of | 11:41:19 12 | approach? |
| 11:39:14 13 | years with experimental and computational fluid | 11:41:21 13 | Do you know what a building-block approach |
| 11:39:18 14 | dynamics | 11:41:22 14 | is? |
| 11:39:19 15 | MR. GOSS: He just asked you what is in the | 11:41:23 15 | A. Step-by-step. |
| 11:39:20 16 | paper. And if you know, you can answer; if you | 11:41:24 16 | Q. Okay. You're a member of the AIAA; correct? |
| 11:39:22 17 | don't, then say so. | 11:41:29 17 | A. I am. |
| 11:39:23 18 | Q. You understand when you write | 11:41:30 18 | Q. Okay. Continue. |
| 11:39:24 19 | You've done many research papers before; | 11:41:33 19 | Do you agree with that statement? |
| 11:39:26 20 | correct? | 11:41:38 20 | A. Would you read the statement again, please? |
| 11:39:26 21 | A. I have. | 11:41:39 21 | Q. Because of the infeasibility and |
| 11:39:27 22 | Q. And when you cite to something you're | 11:41:41 22 | impractability of conducting true validation |
| 11:39:29 23 | basically saying that this paper states what you're | 11:41:46 23 | experience on most complex systems, the recommended |
| 11:39:29 23 | citing to; correct? | 11:41:46 23 | |
| | - | | method is to use a building-block approach. |
| 11:39:34 25 | "Yes" or "no"? Correct? | 11:41:51 25 | A. I don't agree with that statement. |
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| 4 | 110 | | Olympia Co if that atatament is in this |
| 11:39:35 | A. Yes. | 11:41:53 | Q. Okay. So if that statement is in this |
| 11:39:36 2 | Q. Okay. So you're citing to number 25, this | 11:41:55 2 | paper, you would disagree with it. |
| 11:39:39 | paper, under page 18 of Exhibit 2, to say, "The CFD | 11:41:57 | A. I disagree with that statement, yes. |
| 11:39:44 4 | simulation of turbulent flows without any experimental | 11:41:59 4 | Q. Okay. Okay. Do you believe this statement |
| 11:39:46 5 | validation is automatically suspect in the fluid | 11:42:00 5 | in this paper of reference 25 is authoritative? |
| 11:39:50 6 | dynamics community, and is generally not considered | 11:42:03 6 | A. Yes. |
| 11:39:53 7 | publishable until at least some comparative | 11:42:03 7 | Q. Okay. Continue on. |
| 11:39:56 | experimental data becomes available." | 11:42:06 | "This approach divides the complex |
| 11:39:57 | Is that stated in that paper? Do you know, | 11:42:08 | engineering system of interest into three, or more, |
| 11:39:59 10 | sitting here today? | 11:42:12 10 | progressively simple tiers: subsystem cases, benchmark |
| 11:40:01 11 | A. I would have to go back and check the paper. | 11:42:19 11 | cases, and unit problems." |
| 11:40:02 12 | Q. Okay. | 11:42:21 12 | Do you agree with that? |
| 11:40:03 13 | A. I cited that reference as the foremost | 11:42:22 13 | A. What was the last one? |
| 11:40:06 14 | reference on validation/verification of CFD. | 11:42:25 14 | Q. "This approach divides the complex |
| 11:40:06 14 | Q. Well are you saying you're citing stuff | 11:42:25 14 | engineering system of interest into three, or more, |
| 11:40:10 15 | without being sure what's in it? Is that what you're | 11:42:30 16 | progressively simple tiers: subsystem cases, benchmark |
| 11:40:11 16 | | 11:42:30 10 | |
| | telling me today? | | cases, and unit problems." |
| 11:40:15 18 | MR. GOSS: Objection, argumentative. | 11:42:40 18 | Do you agree with that? |
| 11:40:17 19 | Q. I mean, Dr. Settles, by you citing it you're | 11:42:41 19 | A. "Unit problems." All right. |
| 11:40:21 20 | basically telling the scientific community that this | 11:43:08 20 | I think I'd have to see the context on that |
| 11:40:26 21 | statement is in that paper; aren't you? | 11:43:10 21 | before I could give you a a yes-or-no answer. |
| 11:40:28 22 | A. I think that that's the general the gist | 11:43:14 22 | Q. You're a member |
| 11:40:30 23 | of the paper is that, but in recent years, with the | 11:43:15 23 | As you said, you're a member of the AIAA; |
| 11:40:33 24 | development of LES and DNS, there may be some | 11:43:17 24 | correct? |
| 11:40:38 25 | occasions where the more advanced solutions could be | 11:43:17 25 | A. That's correct. |
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| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CON | FIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 11:43:18 1 | 0 | And they have actually discussed | 11140:00 1 | validation | 115 is testing the physics; correct? |
| | | | 11:46:02 1 | | |
| 11:43:19 4 | | on and validation in their literature; | | | All right. The What I'm saying is if you |
| 11:43:22 3 | correct? | That is someth | 11:46:07 | | this with an operating room you need to |
| 11:43:23 4 | Α. | That is correct. | 11:46:12 4 | | n ventilation example that is more |
| 11:43:23 5 | Q. | Okay. And they have an AIAA Guide; correct? | 11:46:16 5 | | d than the operating room to be able to |
| 11:43:27 6 | Α. | Yes. | 11:46:19 6 | | my code works for the more complicated |
| 11:43:27 | Q. | And actually the AIAA doesn't use the term | 11:46:23 7 | case, it sh | ould then work for the less complicated |
| 11:43:32 | "building | -block tiers," it actually refers to them as | 11:46:26 | case. | |
| 11:43:34 | "phases. | " Are you familiar with that? | 11:46:27 | Q . (| Could a clean room suffice? |
| 11:43:36 10 | Α. | Phases, building blocks, step-by-step, yeah. | 11:46:29 10 | A. 1 | Maybe. |
| 11:43:45 11 | Q. | Do you understand that if a code Strike | 11:46:30 11 | Q . (| Okay. Isolation room? |
| 11:43:51 12 | that. | | 11:46:33 12 | A. 1 | Don't know about that. |
| 11:43:51 13 | | A code could be validated by performing | 11:46:33 13 | Q . (| Okay. |
| 11:43:55 14 | experime | ental data and testing it on more complex | 11:46:34 14 | A. 1 | Maybe, maybe not. |
| 11:43:58 15 | systems | than what you are actually doing your modeling | 11:46:36 15 | Q . 1 | But it's mainly testing the code, the math |
| 11:44:02 16 | on. | , , , , , | 11:46:41 16 | | ysics, that's the verification and |
| 11:44:02 17 | Α. | "More complex systems." | 11:46:43 17 | validation; | |
| 11:44:04 18 | Q. | Yes. | 11:46:44 18 | • | MR. GOSS: Object to form. |
| 11:44:09 19 | Q . Α. | In other words | 11:46:46 19 | | According to your paper that you |
| 11:44:09 19 | Α. | Can I rephrase this, or? | 11:46:46 19 | | According to your paper that you According to the paper that was cited. |
| 11:44:22 20 | Q. | Let me Let me | 11:46:47 20 | _ | |
| | Q. | | | | Testing the ability of the code to predict a |
| 11:44:26 22 | | Let me make it simpler. | 11:46:53 22 | | urbulent flow, which is a very difficult |
| 11:44:27 23 | Α. | Yeah. | 11:46:57 23 | thing to do | |
| 11:44:32 24 | | If I modeled this room and I had 10 air | 11:47:07 24 | | So you would agree with me if Elghobashi, |
| 11:44:36 25 | supplies | and five air returns and 15 people in here | 11:47:12 25 | Dr. Elghob | ashi provides data that this code was |
| | | STIREWALT & ASSOCIATES | | | STIREWALT & ASSOCIATES |
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| | | | _ | | 116 |
| 11:44:41 1 | | nch of equipment and I modeled it and I tested | 11:47:18 1 | | d validated for a more complex system with |
| • | it and th | nch of equipment and I modeled it and I tested e code was verified and validated based on | 11:47:18 1 11:47:24 2 | the same t | d validated for a more complex system with types of physics, airflow, turbulence, |
| 11:44:44 2 | it and th | nch of equipment and I modeled it and I tested | _ | the same t | d validated for a more complex system with |
| 11:44:44 2 11:44:50 3 | it and the | nch of equipment and I modeled it and I tested e code was verified and validated based on | 11:47:24 2 | the same t particle flo | d validated for a more complex system with types of physics, airflow, turbulence, |
| 11:44:44 2 11:44:50 3 11:44:56 4 | it and the the testing the same | nch of equipment and I modeled it and I tested e code was verified and validated based on ng, that therefore if I run the same use | 11:47:24 2 11:47:28 3 | the same t particle flo criticism of | d validated for a more complex system with types of physics, airflow, turbulence, w, et cetera, that you would have no |
| 11:44:44 2 11:44:50 3 11:44:56 4 11:45:00 5 | it and the the testing the same | nch of equipment and I modeled it and I tested e code was verified and validated based on ng, that therefore if I run the same use e exact code for a room this size with just one | 11:47:24 2 11:47:28 3 11:47:33 4 | the same t particle flo criticism of | d validated for a more complex system with cypes of physics, airflow, turbulence, w, et cetera, that you would have no f the validation. I'm not going to agree with that, and I can |
| 11:44:44 2 11:44:50 3 11:44:56 4 11:45:00 5 11:45:04 6 | it and the the testing the same air suppl | nch of equipment and I modeled it and I tested e code was verified and validated based on ng, that therefore if I run the same use e exact code for a room this size with just one | 11:47:24 2 11:47:28 3 11:47:33 4 11:47:36 5 | the same to particle flooriticism of A. It explain wh | d validated for a more complex system with cypes of physics, airflow, turbulence, w, et cetera, that you would have no f the validation. I'm not going to agree with that, and I can |
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| 11:44:44 | it and the the testing the same air supplement A. Q. | nch of equipment and I modeled it and I tested e code was verified and validated based on ng, that therefore if I run the same use e exact code for a room this size with just one y, one air return, and only one person in All right. | 11:47:24 2 11:47:28 3 11:47:33 4 11:47:36 5 11:47:39 6 11:47:41 7 | the same to particle flood criticism of A. D. S. S. S. A. | d validated for a more complex system with types of physics, airflow, turbulence, w, et cetera, that you would have no f the validation. I'm not going to agree with that, and I can by. Sure. |
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| 11:44:44 2 11:44:50 3 11:44:50 4 11:45:04 6 11:45:04 7 11:45:05 8 11:45:06 9 11:45:11 10 11:45:11 11 11:45:12 14 11:45:13 15 11:45:23 15 11:45:24 16 11:45:35 17 11:45:36 18 11:45:36 18 11:45:37 19 11:45:46 21 11:45:46 21 11:45:46 21 | it and the the testing the same air supple here | nch of equipment and I modeled it and I tested a code was verified and validated based on a ng, that therefore if I run the same use a exact code for a room this size with just one by, one air return, and only one person in All right. that the code is that that that is still validated? Since the code was run on a more complex of similar type, that could be used as a nowallow. Okay. So the mere fact So you would agree with me that if this code, the one he used, was validated on a mplex system than what was done in this case, are CFD community they would consider that it. It would have to be a more complex system of a type as the ventilation flow in an operating of a jet engine combustor or some such. Same physics. Ver | 11:47:24 | the same to particle flocriticism of A. I sexplain when A. I still think making some experimen Q. I measurem A. I measurem would actuely everything A. I stake mean and then would actual to the control of the control | d validated for a more complex system with types of physics, airflow, turbulence, w, et cetera, that you would have no if the validation. I'm not going to agree with that, and I can by. Sure. That could be a part of the validation, but a that it overlooks the obvious step of me measurements, it could be simple ents, in an operating room for a direct CFD to tomparison. Okay. So you still think you'd need ents in an operating room; correct? I'm an experimentalist. How much would it cost to make accurate ents in an operating room, like accurate that hally show turbulence and velocity fields and like that? Once again, a step-by-step approach would flow measurements, temperature and velocity would step up to turbulence intensity |
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| 11:44:44 2 11:44:50 3 11:44:50 4 11:45:04 6 11:45:04 7 11:45:05 8 11:45:08 9 11:45:11 10 11:45:14 11 11:45:16 12 11:45:16 12 11:45:20 14 11:45:20 14 11:45:20 14 11:45:20 15 11:45:21 17 11:45:21 17 11:45:22 17 11:45:23 17 11:45:24 18 11:45:25 23 11:45:55 23 11:45:55 23 | it and the the testing the same air supplement of the same of the same of the same room, not the same room, | nch of equipment and I modeled it and I tested a code was verified and validated based on a ng, that therefore if I run the same use a exact code for a room this size with just one by, one air return, and only one person in All right. that the code is that that that is still validated? Since the code was run on a more complex of similar type, that could be used as a nowallow. Okay. So the mere fact So you would agree with me that if this code, the one he used, was validated on a mplex system than what was done in this case, are CFD community they would consider that it. It would have to be a more complex system of a type as the ventilation flow in an operating of a jet engine combustor or some such. Same physics. Ver | 11:47:24 | the same to particle flocriticism of A. I sexplain when A. I still think making some experiment Q. I measurem would actue everything A. I stake mean and then wo measurem | d validated for a more complex system with types of physics, airflow, turbulence, w, et cetera, that you would have no f the validation. I'm not going to agree with that, and I can by. Sure. That could be a part of the validation, but a that it overlooks the obvious step of me measurements, it could be simple ents, in an operating room for a direct CFD to tomparison. Okay. So you still think you'd need ents in an operating room; correct? I'm an experimentalist. How much would it cost to make accurate ents in an operating room, like accurate that hally show turbulence and velocity fields and like that? Once again, a step-by-step approach would flow measurements, temperature and velocity, would step up to turbulence intensity |
| 11:44:44 2 11:44:50 3 11:44:50 4 11:45:04 6 11:45:04 7 11:45:05 8 11:45:08 9 11:45:11 10 11:45:11 11 11:45:12 11 11:45:13 15 11:45:20 14 11:45:20 14 11:45:21 15 11:45:21 17 11:45:22 17 11:45:23 17 11:45:24 18 11:45:25 18 11:45:25 23 11:45:55 23 11:45:55 23 | it and the the testing the same air supplement of the same of the same of the same room, not the same room, | nch of equipment and I modeled it and I tested a code was verified and validated based on a code was run this size with just one and y, one air return, and only one person in All right. that the code is that that that is still validated? Since the code was run on a more complex of similar type, that could be used as a code was. Okay. So the mere fact So you would agree with me that if whi's code, the one he used, was validated on a complex system than what was done in this case, are CFD community they would consider that it. It would have to be a more complex system of a type as the ventilation flow in an operating of a jet engine combustor or some such. Same physics. Ver According to this paper, verification is | 11:47:24 | the same to particle flocriticism of A. I still think making so measurem experimen Q. (I measurem would actue everything A. (I take mean and then womeasurem mean flow measurem mean flow in the control of the control | d validated for a more complex system with types of physics, airflow, turbulence, w, et cetera, that you would have no f the validation. I'm not going to agree with that, and I can by. Sure. That could be a part of the validation, but that it overlooks the obvious step of me measurements, it could be simple ents, in an operating room for a direct CFD to comparison. Okay. So you still think you'd need ents in an operating room; correct? I'm an experimentalist. How much would it cost to make accurate ents in an operating room, like accurate that hally show turbulence and velocity fields and like that? Once again, a step-by-step approach would flow measurements, temperature and velocity, would step up to turbulence intensity ents and so forth. But until you verified the |
| 11:44:56 4 11:45:00 5 11:45:04 6 11:45:04 7 11:45:05 8 | it and the the testing the same air supplement of the same of the same of the same room, not the same room, | nch of equipment and I modeled it and I tested a code was verified and validated based on a code was run this size with just one and y, one air return, and only one person in All right. that the code is that that that is still validated? Since the code was run on a more complex of similar type, that could be used as a code. Okay. So the mere fact So you would agree with me that if this code, the one he used, was validated on a complex system than what was done in this case, are CFD community they would consider that the code was the ventilation flow in an operating of a jet engine combustor or some such. Same physics. Ver According to this paper, verification is an opphysics, vali or, I'm sorry. | 11:47:24 2 11:47:28 3 11:47:33 4 11:47:36 5 11:47:39 6 11:47:41 7 11:47:41 8 11:47:50 10 11:47:50 11 11:47:50 12 11:48:00 13 11:48:00 13 11:48:00 15 11:48:01 17 11:48:10 17 11:48:11 17 11:48:11 17 11:48:12 21 11:48:22 21 11:48:28 23 11:48:21 24 | the same to particle flocriticism of A. I still think making so measurem experimen Q. (I measurem would actue everything A. (I take mean and then womeasurem mean flow measurem mean flow in the control of the control | d validated for a more complex system with types of physics, airflow, turbulence, w, et cetera, that you would have no f the validation. I'm not going to agree with that, and I can by. Sure. That could be a part of the validation, but a that it overlooks the obvious step of me measurements, it could be simple ents, in an operating room for a direct CFD to tomparison. Okay. So you still think you'd need ents in an operating room; correct? I'm an experimentalist. How much would it cost to make accurate ents in an operating room, like accurate that hally show turbulence and velocity fields and like that? Once again, a step-by-step approach would flow measurements, temperature and velocity, would step up to turbulence intensity ents and so forth. But until you verified the , there's no point in using complex and |

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| :48:41 1 | Q. | You're not a particle expert; correct? | 11:51:49 1 | sources in your references and cite to them in your |
| :48:44 2 | A. | No. | 11:51:51 2 | report; correct? |
| :48:45 3 | Q. | Okay. | 11:51:52 3 | A. Correct. |
| :48:52 4 | | (Interruption by the reporter.) | 11:51:53 4 | Q. And you fai |
| :49:02 5 | Q. | You agree with me that reference number 25 | 11:51:53 5 | And you did not do so; did you? |
| 50:11 6 | has no d | iscussion on whether or not a paper is | 11:51:56 6 | A. The journal. |
| :50:14 7 | publisha | ble or not, according to what you cite it for. | 11:51:57 7 | Q. You do not cite those journals in this |
| :50:18 8 | A. | I'm sorry. That last phrase was? | 11:51:57 8 | A. I did not cite those journals. |
| 50:20 | Q. | "According to what you cite it for." | 11:51:59 9 | Q report; correct? |
| 50:22 10 | A. | Repeat the question. | 11:52:01 10 | A. I did not cite those journals. |
| 50:24 11 | Q. | You say, generally | 11:52:03 11 | Q. And you agree with me that what you cite in |
| 50:25 12 | | You say, on number 18, item number 1, that | 11:52:05 12 | under number 1, reference 25, does not say that; does |
| 50:29 13 | without | validation in the fluid dynamics community, a | 11:52:08 13 | it, Mr. Settles? |
| 50:33 14 | paper is | not publishable unless there's experimental | 11:52:10 14 | A. I don't know. I'd have to check it. |
| 50:35 15 | data; co | rrect? | 11:52:12 15 | I did cite a number of references in |
| 50:37 16 | A. | That's the traditional view, yes. | 11:52:14 16 | journals that have such a compu a computational |
| 50:38 17 | Q. | But there's no way | 11:52:18 17 | policy, I believe. |
| 50:41 18 | | I mean, I'll represent to you that I did a | 11:52:20 18 | Let me check my reference list. |
| 50:44 19 | word sea | arch and typed in the word publish | 11:52:22 19 | Q. You know, I will give you this article at |
| 50:48 20 | publisha | ble, you know, P-U-B-L-I, and the only thing | 11:52:24 20 | lunchtime, and if you could tell me where it says |
| 50:52 21 | that can | ne up was where it says 2002 published by | 11:52:26 21 | something's not publishable, you know, unless |
| 50:57 22 | Elsevier | Science. | 11:52:31 22 | unless there's validation, I'd like you to show it to |
| 50:59 23 | | Do you recall even seeing that statement in | 11:52:35 23 | me after lunch. But I'm not going to have you go |
| 1:01 24 | referenc | e 25? | 11:52:38 24 | through a 50-page paper that you've said you read a |
| 1:02 25 | A. | Once again I cited reference 25 as a general | 11:52:42 25 | know and have cited for you to find something that yo |
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| | | 118 | | 120 |
| 1:05 | referenc | e on validation and verification, but the | 11:52:44 | are even at this point unsure whether or not it exists |
| 51:10 2 | commer | t also speaks to the scientific journals which | 11:52:47 2 | in the paper. Let's move on. |
| 51:14 3 | some | of which, like AIAA Journal and Journal of | 11:53:07 3 | Why were you given the Dasari paper? |
| 1:19 4 | Fluid Me | chanics, have policies that prevent the | 11:53:10 4 | MR. GOSS: Objection, calls for |
| 51:20 5 | publicat | on of pure CFD results with no comparison to | 11:53:12 5 | speculation. |
| 51:26 6 | experim | ental data or some other reasonable | 11:53:16 6 | Q. Do you know what the Dasari paper is? |
| 51:31 7 | verificat | on. | 11:53:18 7 | A. Yes. |
| 51:31 | Q. | Do you have those here today? | 11:53:19 | Q. Okay. When did you first receive the Dasari |
| 1:32 | A. | I do not. | 11:53:21 9 | paper? |
| 1:33 10 | Q. | You understand that today's my day to get | 11:53:22 10 | A. Recently. Last few days. |
| 51:35 11 | | nions and your | 11:53:23 11 | Q. Yesterday, or Sunday? |
| 1:35 12 | - | I | 11:53:25 12 | A. Perhaps yesterday. Well I |
| 1:36 13 | Q. | methodology and basis; correct? | 11:53:26 13 | Q. Did you say you can't remember if it was |
| 1:37 14 | A. | understand that. | 11:53:29 14 | yesterday or Sunday? |
| 1:37 15 | | So I just gave you the sources. | 11:53:33 15 | A. Dasari. Yesterday, I think. |
| 1:39 16 | | MR. GOSS: Let him finish his question | 11:53:35 16 | Q. Okay. How long did you meet with Mr. Goss |
| 47 | before y | ou start to answer. | 11:53:37 17 | yesterday? |
| 1:41 I / | | THE WITNESS: I'm sorry. | 11:53:39 18 | A. How long? |
| | Q. | You understand that. | 11:53:39 19 | Q. Yes. |
| 1:41 18 | α. | Say again. | 11:53:40 20 | A. I don't think I have to talk about |
| 1:41 18 1:42 19 | - | | 11:53:46 21 | discussions with |
| 11:41 18 11:42 19 11:42 20 | A. | And you understand your deadline for the | i | |
| 11:41 18 11:42 19 11:42 20 11:43 21 | A. Q. | eport was June 2nd. You understand that; | 11:53:48 22 | MR. GOSS: You can answer. |
| 51:41 18 51:42 19 51:42 20 51:43 21 51:45 22 | A. Q. | | 11:53:48 22 11:53:49 23 | |
| 51:41 18 51:42 19 51:42 20 51:43 21 51:45 22 51:46 23 | A. Q. expert r. correct? | | 11:53:49 23 | Q. Listen, sir, let's be clear here. Unless |
| 51:41 18 51:42 19 51:42 20 51:43 21 51:45 22 51:46 23 51:47 24 | A. Q. expert r correct? | eport was June 2nd. You understand that; I understand that. | | Q. Listen, sir, let's be clear here. Unless your attorney tells you not to answer a question, your |
| 51:41 17 51:41 18 51:42 19 51:42 20 51:43 21 51:45 22 51:46 23 51:47 24 51:47 25 | A. Q. expert r correct? | eport was June 2nd. You understand that; | 11:53:49 23 11:53:52 24 | |

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| 1:53:57 | understa | | 11:55:42 | Q. | Okay. | |
| :53:59 2 | | I think I've been answering your questions, | 11:55:42 | | • | |
| :54:01 3 | sir. | T think I ve been answering your questions, | 11:55:42 | | So it's difficult for me to get to get | |
| :54:01 4 | Q. | Okay. So don't tell me I'm not going to | 11:55:52 | | ct comparison. | |
| :54:03 5 | | question unless he tells you not to answer a | 11:55:54 | | | |
| :54:06 6 | question | • | 11:55:57 | | e that indicated that when the upper body | |
| :54:06 7 | question | How long did you spend with Mr. Goss | 11:56:04 7 | | increased the temperature above the patient, | |
| :54:08 | nrenarin | g for today? | 11:56:19 | | at be relevant to your to your testing and | |
| :54:09 9 | | He and I had discussions yesterday, all day. | 11:56:22 | | d your report? | |
| :54:11 10 | Q. | Eight hours, 10 hours, 12 hours? | 11:56:44 10 | | I'm having difficulty answering that | |
| :54:16 11 | Α. | Might have been eight hours. | 11:56:45 11 | | the way it's phrased. | |
| :54:17 12 | Q. | What time'd you start? | 11:56:48 12 | | Well | |
| :54:20 13 | Α. | Nine o'clock in the morning. | 11:56:52 13 | | Increase the temperature when it's | |
| :54:22 14 | Q. | And what time did you finish? | 11:56:54 14 | | ed to what? | |
| :54:27 15 | Α. | Probably about 10 p.m., but it was not a | 11:56:54 15 | | Let | |
| :54:30 16 | | us thing. I mean, there were meals and so | 11:56:55 16 | | Compared to before the Bair Hugger was | |
| :54:32 17 | forth. | as thing. I mean, there were means and so | 11:56:56 17 | | | |
| :54:33 18 | Q. | So that's about 11 hours, minus meals and | 11:56:57 18 | | | |
| :54:35 19 | breaks. | | 11:57:00 19 | _ | Let me withdraw that question. | |
| :54:36 20 | A. | Okay. | 11:57:01 20 | -• | Based on your measurements, the temperature | |
| :54:37 21 | Q. | Fair enough? | 11:57:04 21 | | ne on top of the drape was 18 degrees | |
| :54:37 22 | Α. | Fair enough. | 11:57:11 22 | | | |
| :54:38 23 | Q. | Okay. Did you meet with Mr. Goss since you | 11:57:12 23 | , | Well the temperature | |
| :54:42 24 | - | d your report, or anyone from 3M since June | 11:57:13 24 | | These are shown in the diagram. The | |
| :54:45 25 | 2nd? | - , | 11:57:15 25 | | ture above the drape at the knee was 18 degree | |
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| | _ | 122 | | | 124 | |
| :54:47 1 | Α. | Personal meeting? | 11:57:20 1 | Celsius. | | |
| :54:47 2 | Q. | Yes. | 11:57:21 2 | | Okay. If there was testing done that showed | |
| :54:48 3 | Α. | No. | | | Delta You only see a one degree Delta | |
| :54:51 4 | | Okay. And the first time you received this | 11:57:31 4 | | prrect, between ambient and the temperature. | |
| :54:53 5 | | e Dasari, was yesterday. | 11:57:34 | | That's right. | |
| :54:57 6 | _ | I think that's right. | 11:57:34 | | Okay. If the testing was done that showed a | |
| :54:58 7 | Q. | Okay. | 11:57:38 7 | | five-degree change in temperature when the | |
| :54:59 | Α. | Yeah. | 11:57:40 | _ | ger was turned on compared to when it was off, | |
| :55:00 9 | Q. | Did you discuss this article? | 11:57:43 | _ | at be relevant to your to your report? | |
| :55:02 10 | Α. | Yes. | 11:57:52 10 | | I think it would | |
| :55:02 11 | Q. | Okay. Did you read this article? | 11:57:53 11 | | MR. GOSS: I'm going to object that it | |
| :55:05 12 | Α. | I scanned the article. | 11:57:54 12 | _ | speculation. You can answer. | |
| :55:07 13 | Q. | Okay. Do you disagree with the results of | 11:57:57 13 | | peripherally. | |
| :55:11 14 | the artic | | 11:57:59 14 | - | Okay. | |
| :55:11 15 | A. | Could I see it? | 11:58:03 15 | | In other words, not directly relevant. | |
| :55:13 16 | Numahau | MR. ASSAAD: Let's mark this as Exhibit | 11:58:07 16 | | Were you asked to compare the Bair Hugger to | |
| :55:14 17 | Number | | 11:58:09 17 | | log, or was that something you came up on you | |
| :55:15 18 | | THE REPORTER: Three. | 11:58:12 18 | | Wall I think from my | |
| :55:25 19 | | (Settles Exhibit 3 marked for | 11:58:14 19 | | Well I think from my | |
| :55:29 20 | Λ | identification.) | 11:58:17 20 | Q. | It's a simple question. | |
| 55:29 21 | | So your question is do I disagree with the | 11:58:20 21 | ا طفائد من | Did they ask you to do it, or did you come | |
| :55:32 22 | | f this article? | 11:58:20 22 | • | it on your own? | |
| 55:32 23 | | Yeah. | 11:58:21 23 | _ | I came up with that on my own. | |
| :55:33 24 | | No. My impression of the article is that it | 11:58:23 24 | | Okay. How'd you know about the HotDog? | |
| | looks at | a different problem than the one at hand. | 11:58:25 25 | Α. | Because I saw the literature on the HotDog, | |
| :55:38 25 | | OTIDE 14/4/ T A : 222 2: | | | | |
| :55:38 25 | | STIREWALT & ASSOCIATES -800-553-1953 info@stirewalt.com | | | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | |

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|---|--|---|---|
| 11:58:30 1 | the videos and the other things that we've mentioned. | 12:00:52 | tests and particle tests that the Bair Hugger, when |
| 11:58:32 | Q. What do you know about Dr. Augustine? | 12:00:54 2 | it's turned on, has an effect on the airflow in an |
| 11:58:35 3 | A. Not too much. | 12:00:58 3 | operating room. |
| 11:58:37 4 | Q. Were you provided any information about Dr. | 12:00:59 4 | MR. GOSS: If you need to see the paper, |
| 11:58:39 5 | Augustine? | 12:01:01 5 | let him know; otherwise you can answer the question |
| 11:58:39 6 | A. Some information. | 12:01:03 6 | as it was asked. |
| 11:58:40 7 | Q. What information were you provided? | 12:01:03 7 | MR. ASSAAD: Well if he needs to see |
| _ | A. I believe that he originally invented the | 12:01:04 | anything he can let me know, but you don't have to |
| | Bair Hugger, and now is aligned with the plaintiffs, | 12:01:08 | coach him, Peter. |
| 11:58:45 9 11:58:53 10 | who | 12:01:08 3 | A. I'm |
| 11:58:55 11 | Q. Who told you they're aligned with the | 12:01:09 10 | What I'm getting at here is is this a |
| 11:58:55 11 | plaintiffs? | 12:01:11 11 | yes-or-no question, or can I give you an |
| 11:58:57 12 | A. That's just what I've gathered. | 12:01:12 12 | MR. GOSS: You can answer, to the best of |
| 11:58:57 13 | Q. From who? | 12:01:16 13 | your ability, his question. |
| 11:58:58 | A. What I saw in case reports and this sort of | 12:01:17 14 | |
| 11:59:00 15 | thing on the internet. | 12:01:19 15 | THE WITNESS: Answer to the best of my ability. |
| 11:59:05 16 | Q. What in the internet indicates that Dr. | 12:01:20 16 | |
| 11:59:07 17 | Augustine's aligned with the plaintiffs in this case? | 12:01:21 17 | MR. GOSS: You don't have to ask him any |
| 11:59:09 10 | A. I don't have a specific, so I I should | 12:01:23 10 | questions. A. And it harks back to an earlier issue, does |
| 11:59:16 19 | withdraw that answer. | 12:01:23 19 | the temperature increase when the Bair Hugger is |
| | | 12:01:26 20 | turned on. |
| 11:59:21 21 | Q. Okay. Because you have no basis A. I don't have a basis. I don't have who he's | 12:01:27 2 1 | |
| 11:59:23 22 | aligned with. | 12:01:28 22 | I believe that the temperature probably increases when any warming blanket is turned on |
| 11:59:25 23 | Q. Okay. I mean, this case is basically a | 12:01:30 23 | compared to the case when it's not off. And |
| 11:59:26 24 | scientific problem. You'd agree? | 12:01:34 24 | Q. And |
| 11.59.50 | STIREWALT & ASSOCIATES | 12.01.39 | STIREWALT & ASSOCIATES |
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| | | | |
| 11:59:32 | | 12:01:39 | A that's not a |
| 11:59:32 1 11:59:33 2 | A. As far as I'm concerned, yes. | 12:01:39 1 12:01:40 2 | A that's not a |
| _ | A. As far as I'm concerned, yes.Q. Okay. It doesn't matter | _ | _ |
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| | CC | CASE 0:15-md-02666-JNE-DTS Doc DIFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | : 823-8 | Filed 09 | 112/17 Page 35 of 90 NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|--|--|---|---|---|---|
| | | 129 | | | 131 |
| 12:02:49 1 | anesthe | siology; correct? | 12:04:36 1 | Α. | All right. |
| 12:02:49 2 | A. | No, sir. | 12:04:38 2 | Q. | they have Workbench. |
| 12:02:51 3 | Q. | You don't hold yourself as an expert out in | 12:04:40 3 | Α. | I've used Fluent in the past in teaching, |
| 12:02:53 4 | infection | disease; correct? | 12:04:42 4 | and then | some of my students used it in research in |
| 12:02:54 5 | A. | No, sir. | 12:04:46 5 | the past. | |
| 12:02:54 6 | Q. | You don't hold yourself out as an expert in | 12:04:46 6 | Q. | What version of Fluent did you last use? |
| 12:02:56 7 | orthope | dic surgery; correct? | 12:04:48 7 | A. | I don't |
| 12:02:58 | Α. | That's correct. | 12:04:49 8 | | This has been a few years, so I don't know |
| 12:02:58 | Q. | You don't hold yourself as an expert in | 12:04:50 | what the | version was. |
| 12:03:00 10 | internal | medicine; correct? | 12:04:51 10 | Q. | When you say "a few years"; five years, 10 |
| 12:03:01 11 | Α. | Correct. | 12:04:53 11 | years? S | ince you've last used it, not your students. |
| 12:03:02 12 | Q. | You don't hold your expert | 12:04:56 12 | Α. | Well I've been refired for two years. It |
| 12:03:03 13 | | You don't hold yourself as an expert in | 12:04:58 13 | would hav | ve been 5 or 10 years, yeah. |
| 12:03:06 14 | nursing; | correct? | 12:05:01 14 | Q. | Okay. Do you know what Boussinesq is, |
| 12:03:08 15 | A. | Correct. | 12:05:03 15 | approxim | ation? |
| 2:03:08 16 | Q. | You don't hold yourself out as an expert in | 12:05:04 16 | A. | The Boussinesq approximation, yes. |
| 2:03:10 17 | filter me | edia; correct? | 12:05:06 17 | Q. | What is it? |
| 12:03:11 18 | Α. | Correct. | 12:05:07 18 | A. | That's an approximation used in |
| 12:03:11 19 | Q. | You don't hold yourself out as an expert in | 12:05:09 19 | computat | ional fluid dynamics in which density effects |
| 2:03:14 20 | | device design; correct? | 12:05:12 20 | - | ed if the force of gravity is not explicitly |
| 12:03:15 21 | A. | That's correct. | 12:05:16 21 | involved. | |
| 12:03:16 22 | Q. | You don't hold yourself out as an expert in | 12:05:17 22 | Q. | Is density effects ignored for all the |
| 12:03:18 23 | medical | device warnings; correct? | 12:05:21 23 | the varial | oles in the equation, or just for certain |
| 12:03:19 24 | Α. | Correct. | 12:05:23 24 | ones? | |
| 12:03:20 25 | Q. | You don't hold yourself out as an expert in | 12:05:24 25 | Α. | The ones that are coupled with the force of |
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| | CC | ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CON | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 1 | nationt v | 130 warming; correct? | 1 | gravity. | 132 |
| 12:03:23 1 12:03:23 2 | Δ | Correct. | 12:05:27 1 12:05:31 2 | | Have you ever used the Boussinesq |
| 12:03:25 3 | 0 | You don't hold yourself out as an expert in | 12:05:33 | approxim | |
| 2:03:27 | | g room design; correct? | 12:05:34 4 | арр. ол | I've never written a code that involved the |
| 2:03:29 5 | 000.00 | g | 12.00.01 | Α. | |
| - | Α. | That's correct. | 12:05:38 5 | | |
| 12:03:29 | A. Q. | That's correct. By the way, with respect to the creation of | 12:05:38 5 | Boussines | sq approximation. |
| - | Q. | By the way, with respect to the creation of | 12:05:39 6 | Boussines Q. | sq approximation. Have you ever used it in an ANSYS Fluent? |
| 12:03:31 7 | Q. your mo | By the way, with respect to the creation of odel or your system, did you consult with any | 12:05:39 6 12:05:42 7 | Boussines Q. A. | sq approximation. Have you ever used it in an ANSYS Fluent? I've not used very much ANSYS Fluent |
| 12:03:31 7 12:03:35 8 | Q. your mo | By the way, with respect to the creation of odel or your system, did you consult with any 172 consultants? | 12:05:39 6 12:05:42 7 12:05:42 8 | Boussines Q. A. Q. | sq approximation. Have you ever used it in an ANSYS Fluent? I've not used very much ANSYS Fluent Okay. |
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| 12:03:31 7 12:03:35 8 12:03:42 9 12:03:44 10 12:03:45 11 12:03:48 12 | Q. your mo ASHRAE A. people. | By the way, with respect to the creation of odel or your system, did you consult with any 172 consultants? MR. GOSS: 170? MR. ASSAAD: 170. Sorry. No. I didn't have didn't consult with I read ASHRAE documents that are cited. | 12:05:39 6 12:05:42 7 12:05:42 8 12:05:46 9 12:05:47 10 12:05:55 11 | Q. A. Q. A. Q. Fluent use | sq approximation. Have you ever used it in an ANSYS Fluent? I've not used very much ANSYS Fluent Okay personally. Do you even know if ANSYS uses the ANSYS es the Boussinesq approximation? No, I don't. |
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| 12:03:31 7 12:03:35 8 12:03:42 9 12:03:44 10 12:03:45 11 12:03:48 12 12:03:51 13 12:03:56 14 12:03:57 15 12:04:00 16 12:04:02 17 12:04:05 18 12:04:06 19 12:04:22 20 12:04:22 21 12:04:22 23 | Q. your mo ASHRAE A. people. Q. airflow; A. Q. in in o A. Q. A. compute | By the way, with respect to the creation of idel or your system, did you consult with any if 172 consultants? MR. GOSS: 170? MR. ASSAAD: 170. Sorry. No. I didn't have didn't consult with I read ASHRAE documents that are cited. Okay. You have no experience in operating correct? Operating room airflow. Clean room airflows, but not operating room. So you don't hold yourself out as an expert operating room airflow. No, sir. Okay. Have you heard of ANSYS? Yes. Have you ever used ANSYS? Well ANSYS is the company that bought the er the CFD code known as Fluent. Is that what you're referring to? | 12:05:39 6 12:05:42 7 12:05:42 8 12:05:46 9 12:05:57 10 12:05:55 12 12:05:56 13 12:06:00 14 12:06:03 15 12:06:06 17 12:06:06 18 12:06:16 19 12:06:16 20 12:06:21 21 12:06:24 22 12:06:26 23 12:06:29 24 | Boussines Q. A. Q. A. Q. Fluent use A. Q. use the B A. air. Q Strike t A. gravitatio understar Q. related to | Is approximation. Have you ever used it in an ANSYS Fluent? I've not used very much ANSYS Fluent Okay. personally. Do you even know if ANSYS uses the ANSYS es the Boussinesq approximation? No, I don't. Okay. Do you know when it's appropriate to oussinesq approximation? It has to do with particle motion in the (Interruption by the reporter.) Does it work with a complex system that has that. It assumes density is constant; correct? It ignores some density effects if the nal force is not involved. That's my nding of the Boussinesq approximation. And density is related and air are |

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|---|---|---|--|
| Í | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 133 | | 135 |
| 12:06:33 | A. It's inversely related to temperature at | 12:08:51 | A. That's |
| 12:06:35 2 | constant pressure, that's right. | 12:08:54 2 | MR. GOSS: well |
| 12:06:37 3 | Q. Okay. And if there's a significant | 12:08:54 3 | A. I don't really know how to answer that |
| 12:06:46 4 | difference in temperature, you would agree with me | 12:08:57 4 12:08:58 5 | question. Q. Okay. Well you testified earlier that a |
| 12:06:50 5 | that using the Boussinesq approximation might cause | | · |
| 12:06:53 6 | error. | 12:09:04 6 | code could be validated if, for example, you're doing |
| 12:06:54 7 | MR. GOSS: I'm just going to object that | 12:09:08 7 | an operating room or a clean room or something similar |
| 12:06:56 | this is beyond the scope of his opinions. | 12:09:11 8 | and it was validated for a more complex model than |
| 12:06:59 | You can answer if you know. | 12:09:16 9 | what you're actually doing at this |
| 12:07:03 10 | A. I know that Boussinesq can fail under | 12:09:18 10 | A. That could be one form of validation. |
| 12:07:06 11 | certain circumstances. I also know that it's an | 12:09:20 11 | Q. Okay. So to if you |
| 12:07:08 12 | important approximation in computational fluid | 12:09:22 12 | Like, for example, if the Boussinesq |
| 12:07:12 13 | dynamics within its realm of application. | 12:09:25 13 | approximation was not validated for a model that's |
| 12:07:14 14 | Q. Would you agree with me that based on the | 12:09:28 14 | more complex, say for in this case for an operating |
| 12:07:17 15 | literature and ANSYS guidelines that ANSYS is supposed | 12:09:31 15 | room |
| 12:07:19 16 | to be used for natural convection cases? | 12:09:31 16 | A. That's not validated. |
| 12:07:24 17 | A. Is ANSYS | 12:09:33 17 | MR. GOSS: Wait. Wait. Let him finish his |
| 12:07:25 18 | Q. Natural | 12:09:35 18 | question before you start to answer, please. |
| 12:07:25 19 | For natural convection. | 12:09:38 19 | THE WITNESS: Sorry. |
| 12:07:26 20 | A. is a | 12:09:38 20 | Q was not validated, then without |
| 12:07:27 21 | Q. Supposed to be used for | 12:09:40 21 | experimental testing you cannot validate your results; |
| 12:07:28 22 | A. "Supposed to be used." | 12:09:43 22 | correct? |
| 12:07:30 23 | Q. I'm sorry. "Can be used." | 12:09:52 23 | A. If the Boussinesq approximation was not |
| 12:07:31 24 | A. "Can be used." "Can be used." | 12:09:55 24 | validated, then without experimental vali |
| 12:07:33 25 | Yes, it certainly can be used for natural | 12:09:59 25 | Q. Validation, you could |
| i | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| İ | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 4 | convection. | 12:10:00 1 | 136 |
| 12:07:35 1 | Q. And you would agree with me that Strike | | A validation, you couldQ. Experimental data, |
| • | that. | | A. Data. |
| 4 | | | |
| 12:07:51 4 | Do you know whether or not ANSYS Fluent or CFX has been verified? | 12:10:04 4 | Q you could not validate your results.A. That |
| 12:07:54 5 12:08:00 6 | | 12:10:07 5 | A. That That's a little too contorted for me to |
| - | A. The code itself has been around for a long | _ | _ |
| 12:08:02 7 12:08:06 8 | time, so I think that code verification has long since been done. | 12:10:12 7 12:10:17 8 | Q. Okay.A get a clear idea of what it is you're |
| • | Q. What about validated? | | asking. |
| | • | | asking. |
| 12:08:09 10 | Δ Well that | 10:10:40 | • We'll move on then |
| | A. Well that Validation speaks to particular problems | 12:10:19 10 | Q. We'll move on, then. |
| 12:08:09 11 | Validation speaks to particular problems | 12:10:20 11 | Have you received |
| 12:08:09 11 12:08:13 12 | Validation speaks to particular problems with particular grids and particular boundary | 12:10:20 11 12:10:29 12 | Have you received Are you familiar with Dr. Sessler? |
| 12:08:09 11 12:08:13 12 12:08:16 13 | Validation speaks to particular problems with particular grids and particular boundary conditions. | 12:10:20 11 12:10:29 12 12:10:33 13 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 12:08:19 15 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? |
| 12:08:09 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 12:08:19 15 12:08:21 16 12:08:26 17 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." |
| 12:08:09 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 12:08:19 15 12:08:21 16 12:08:23 17 12:08:31 18 12:08:33 19 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 12:10:45 19 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 12:08:19 15 12:08:21 16 12:08:23 17 12:08:31 18 12:08:33 19 12:08:33 20 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. Q. Okay. You agree with me, though, that to | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 12:10:51 19 12:10:54 20 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on particle counts. |
| 12:08:09 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. Q. Okay. You agree with me, though, that to use the Boussinesq approximation in ANSYS that that | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 12:10:51 19 12:10:54 20 12:10:55 21 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on particle counts. Q. Well, are you surprised that 3M actually |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 12:08:19 15 12:08:21 16 12:08:23 17 12:08:31 18 12:08:33 19 12:08:38 21 12:08:38 21 12:08:38 21 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. Q. Okay. You agree with me, though, that to use the Boussinesq approximation in ANSYS that that would have to be validated for a system that's more | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:39 16 12:10:43 17 12:10:45 18 12:10:51 19 12:10:54 20 12:10:55 21 12:10:56 22 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on particle counts. Q. Well, are you surprised that 3M actually funded and conducted a study on the effect of Bair |
| 12:08:09 11 12:08:13 12 12:08:16 14 12:08:19 15 12:08:21 16 12:08:21 17 12:08:31 18 12:08:33 19 12:08:33 20 12:08:38 21 12:08:48 22 12:08:46 23 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. Q. Okay. You agree with me, though, that to use the Boussinesq approximation in ANSYS that that would have to be validated for a system that's more complex than an operating room; correct? | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 12:10:51 19 12:10:54 20 12:10:56 21 12:10:56 22 12:11:01 23 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on particle counts. Q. Well, are you surprised that 3M actually funded and conducted a study on the effect of Bair Hugger in an operating room using particle counts and |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 12:08:19 15 12:08:21 16 12:08:26 17 12:08:33 19 12:08:33 20 12:08:38 21 12:08:46 23 12:08:46 23 12:08:46 23 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. Q. Okay. You agree with me, though, that to use the Boussinesq approximation in ANSYS that that would have to be validated for a system that's more complex than an operating room; correct? A. Oh wow. | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 12:10:51 19 12:10:54 20 12:10:55 21 12:10:56 22 12:11:01 23 12:11:05 24 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on particle counts. Q. Well, are you surprised that 3M actually funded and conducted a study on the effect of Bair Hugger in an operating room using particle counts and that they have not provided you with either the paper |
| 12:08:09 11 12:08:13 12 12:08:16 14 12:08:19 15 12:08:21 16 12:08:21 17 12:08:31 18 12:08:33 19 12:08:33 20 12:08:38 21 12:08:48 22 12:08:46 23 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. Q. Okay. You agree with me, though, that to use the Boussinesq approximation in ANSYS that that would have to be validated for a system that's more complex than an operating room; correct? A. Oh wow. MR. GOSS: Again it's | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 12:10:51 19 12:10:54 20 12:10:56 21 12:10:56 22 12:11:01 23 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on particle counts. Q. Well, are you surprised that 3M actually funded and conducted a study on the effect of Bair Hugger in an operating room using particle counts and that they have not provided you with either the paper or the underlying data? |
| 12:08:09 11 12:08:13 12 12:08:16 13 12:08:16 14 12:08:19 15 12:08:21 16 12:08:26 17 12:08:33 19 12:08:33 20 12:08:38 21 12:08:46 23 12:08:46 23 12:08:46 23 | Validation speaks to particular problems with particular grids and particular boundary conditions. Q. And you agree with me that since ANSYS is a commercial product that they don't make any representations of validation because their product is used for so many different types of modeling. A. I don't really know what representations they make. Q. Okay. You agree with me, though, that to use the Boussinesq approximation in ANSYS that that would have to be validated for a system that's more complex than an operating room; correct? A. Oh wow. | 12:10:20 11 12:10:29 12 12:10:33 13 12:10:34 14 12:10:36 15 12:10:39 16 12:10:43 17 12:10:45 18 12:10:51 19 12:10:54 20 12:10:55 21 12:10:56 22 12:11:01 23 12:11:05 24 | Have you received Are you familiar with Dr. Sessler? A. Vaguely, yeah. Q. Have you not reviewed his study on parti that 3M funded on particle counts? A. I'm not particularly concerned about Oh, wait a minute. "Particle counts." Q. Yeah. A. I'm not familiar with Sessler's study on particle counts. Q. Well, are you surprised that 3M actually funded and conducted a study on the effect of Bair Hugger in an operating room using particle counts and that they have not provided you with either the paper |

| | CASE 0:15-md-02666-JNE-DTS Do CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 137 | 823-8 | Filed 09/12/17 Page 37 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDE 139 |
|------------------|--|--------------------|--|
| 1 | A. Well, no. I did my own literature search. | 12:13:39 1 | A. I think I answered the question. |
| 2:11:12 1 | So if this was relevant, I should have found it | 12.10.00 | Q. Okay. Well you said you're not aware of it, |
| 2:11:17 | · | | |
| 1:11:19 3 | myself. | 12:13:43 | so I'm going to assume that |
| 1:11:21 4 | Q. Well it's it's a paper funded by 3M that | 12:13:45 | A. No one told me that. |
| 1:11:23 5 | compares the Bair Hugger that looks at the Bair | 12:13:48 5 | Q. Okay. Well do you know why not? |
| :11:28 6 | Hugger's effect on the laminar flow in in two test | 12:13:50 | MR. GOSS: Calls for speculation. |
| 1:11:33 7 | sites in Holland that was done in 2010 and published | 12:13:56 7 | A. I think I already explained that I didn't |
| :11:36 8 | in 2011. | 12:13:59 | depend on 3M for literature. |
| :11:39 9 | And I take it you didn't you didn't find | 12:14:03 | Q. Well we got Exhibit 3 they gave you; |
| :11:41 10 | that article. | 12:14:08 10 | correct? |
| :11:42 11 | A. I didn't. | 12:14:08 11 | A. Well I certainly looked at literature that |
| :11:43 12 | Q. Okay. Do you believe that if you are | 12:14:10 12 | was provided. |
| :11:45 13 | have been retained by a company such as 3M, that they | 12:14:11 13 | Q. Are you relying on on |
| :11:48 14 | would supply you with relevant data to your research? | 12:14:12 14 | MR. ASSAAD: Let's mark this as Exhibit 4, |
| 11:51 15 | A. I didn't expect 3M to provide me with the | 12:14:12 15 | this as Exhibit 5, and this as Exhibit 6. |
| 11:54 16 | data. As a scientist it was up to my to me myself | 12:14:13 16 | (Discussion off the stenographic record.) |
| 11:59 17 | to learn what the literature had to say. | 12:14:43 17 | (Settles Exhibits 4 - 6 marked for |
| 12:02 18 | Q. So the fact that you didn't find the Dr. | 12:14:43 18 | identification.) |
| :12:06 19 | Sessler article, would you agree with me that your | 12:14:43 19 | BY MR. ASSAAD: |
| | | | |
| 12:08 20 | research was not complete? | 12:14:50 20 | Q. Are you relying in any of your opinions on |
| 12:10 21 | A. Well | 12:14:53 21 | Exhibits 4 through 6? |
| 12:10 22 | MR. GOSS: Object to form. | 12:14:56 22 | A. (Witness reviewing exhibits.) All right. |
| 12:12 23 | A. one does a literature search, one never | 12:15:02 23 | Yes. |
| 12:15 24 | finds all the pertinent references. But I'll | 12:15:03 24 | Q. You are? |
| 12:19 25 | certainly go look for that one and read it. | 12:15:04 25 | A. I Here's the issue. I was aware of 4 |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
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| | 138 | | 140 |
| :12:21 1 | Q. Did you ever go to the 3M website or the | 12:15:09 | sorry 5 and 6. |
| :12:25 2 | Blackwell Burke website on forced-air warming? | 12:15:10 2 | Q. Are those the Legg articles? |
| :12:28 3 | A. No, sir. I did my literature research using | 12:15:12 3 | A. The Legg articles. |
| :12:32 4 | the traditional search engines that are available. | 12:15:13 4 | Q . Okay. |
| 12:35 5 | Q. What'd you use, Google? | 12:15:14 5 | A. And I considered them to be part of a series |
| :12:36 6 | A. Google Scholar, and ISI's Science Citation | 12:15:19 6 | of articles that culminated in the McGovern article, |
| :12:42 7 | Index, which includes PubMed. | 12:15:23 7 | which I cited and therefore relied on, which spoke to, |
| 12:44 8 | Q. Okay. And what were the search terms you | 12:15:27 | among other things, the use of neutral buoyancy heliu |
| • | used? | _ | bubbles in investigating patient-warming blankets. |
| | _ | 12:15:31 9 | |
| :12:46 10 | A. Search terms were, oh, hospital, infection, | | Okay? |
| :12:56 11 | surgery, operating room, CFD. I also included the | 12:15:35 11 | So does that answer the question as far as |
| 13:05 12 | search term "schlieren" to see if anyone see if I | 12:15:37 12 | those two? |
| 13:09 13 | could find any previous work using schlieren optics, | 12:15:39 13 | Q. Kind of. |
| 13:11 14 | which I did not. | 12:15:40 14 | What about the Oguz article? |
| :13:14 15 | Q. You did not use the word "Bair Hugger"? | 12:15:44 15 | A. This one I only saw yesterday, so I can't |
| :13:18 16 | A. Patient-warming blanket, but I did not use | 12:15:46 16 | really it's an interesting article, but certainly |
| 13:22 17 | product names, no. | 12:15:49 17 | it came after my opinions were formed. |
| 13:23 18 | Q. So 3M retains you. | 12:15:51 18 | Q. I thought it came out in January or |
| 13:25 19 | Are you aware that 3M actually has a | 12:15:53 19 | something. |
| 13:28 20 | compendium with every single article written on Bair | 12:15:55 20 | A. I certainly wasn't aware of it if it came |
| 13:31 21 | Hugger in a nice thing you could download? | 12:15:58 21 | out in |
| 13:32 22 | A. Not aware of it. | 12:15:58 22 | Q. So |
| 13:33 23 | Q. They didn't tell you that? | 12:15:58 23 | A January. |
| 13:35 24 | A. Not aware of it. | 12:16:00 24 | Q besides the how-to-drape video, what else |
| | | | |
| 25 | Q. So 3M did not tell you that. | 12:16:07 25 | did 3M give you before you formulated your opinions in |
| :13:37 25 | CTIDEMALT 9 ACCOCIATED | | CTIDE MALT O ACCOUNTED |
| 13:37 25 | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

| | CC | CASE 0:15-md-02666-JNE-DTS Doc NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | , 823 - | -8 | Filed | 09/12/17 Page 38 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|--|--|--|--|---|--|--|
| | | 141 | | | | 143 |
| 12:16:10 1 | your rep | | 12:17:56 | 1 | | A. Brand new. |
| 12:16:16 2 | your rep | And I'm talking about documents, I'm not | 12:17:57 | 2 | _ | Q. Okay. Was it calibrated? |
| 12:16:18 3 | talking a | bout depositions or reports | 12:17:59 | 3 | | A. I actually don't know what that means in ter |
| 12:16:18 4 | | Yeah. | 12:17:59 | 4 | | reference to the Bair Hugger. |
| 12:16:19 5 | Q. | just documents. | 12:18:04 | 5 | | Q. Did you check the filter in it? |
| .2.10.10 | α. | MR. GOSS: Or equipment. | | 6 | | A. And now you're talking about the blower |
| 12:16:21 6 12:16:22 7 | Q. | Or equipment. | 12:18:06 12:18:09 | 7 | unit. | A. And now you're taking about the blower |
| | д. А. | I'm looking at my reference list. | 12:18:09 | 8 | | Q. Yes. |
| | Α. | Most of these references came from my own | | 9 | | A. Sorry. |
| 40 | search. | most of these references came from my own | 12:18:11 | | • | I need to distinguish between the blower |
| 12:16:31 10 | Q. | Wall just tall me the numbers that 2M gave | 12:18:12 | | unit - | - |
| 12:16:33 11 | you. | Well just tell me the numbers that 3M gave | 12:18:13 | | | - Q. Okay. |
| 12:16:35 12 | you. A. | 16. | 12:18:13 | | | A. and the blanket. |
| | Q. | Okay. | 12:18:14 | | | Q. Let's talk about the blower. Did you test |
| 12:16:37 14 | _ | 19. | | | | Let's talk about the blower. Did you test |
| 12:16:39 15 | Α. | | 12:18:16 | | it? | A The blower unit that they gave us were I |
| 12:16:42 16 | Q. | Okay. | 12:18:16 | | | A. The blower unit that they gave us was I |
| 12:16:46 17 | Α. | And 23. | 12:18:18 | | | ve it was brand new, we did not check the filter |
| 12:16:49 18 | Q. | Okay. And I'm sure they gave you 26 and 27; | 12:18:22 | | unit. | Westler and the second 2 |
| 12:16:55 19 | correct? | V = U : L | 12:18:23 | | | Was there another question? |
| 12:16:55 20 | Α. | Yes. That's right. | 12:18:24 | | | Q. No. |
| 12:16:58 21 | Q. | Well, I'm sorry, 26. | 12:18:25 | | | A. All right. |
| 12:16:59 22 | · | Did they give you 27, the computa the | 12:18:26 | | | Q. So you don't know if it was properly |
| 12:17:02 23 | YouTube | | 12:18:27 | | | ated or tested; correct? |
| 12:17:03 24 | Α. | They pointed me to that video, yes. | 12:18:30 | | _ | A. I assumed that it was. |
| 12:17:08 25 | Q. | Was that in an email? | 12:18:32 | 25 | (| Q. Did you test the temperature coming out of |
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| | | -800-553-1953 info@stirewalt.com | | | | 1-800-553-1953 info@stirewalt.com |
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| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 1 | _ | 142 | | 1 | | 144 |
| 12:17:09 1 | Α. | 142 I don't remember how it was | 12:18:34 | 1 | the h | 144 ose? |
| 12:17:10 2 | A. Q. | I don't remember how it was Were there any emails between you and your | 12:18:41 | 1 2 3 | the h | 144 ose? A. I don't believe it's in my report, and |
| 12:17:10 2 12:17:12 3 | A. Q. colleague | I don't remember how it was Were there any emails between you and your es regarding the testing? | 12:18:41 12:18:44 | 3 | the ho | 144 ose? A. I don't believe it's in my report, and fore I don't think we actually measured the |
| 12:17:10 2 12:17:12 3 12:17:14 4 | A. Q. colleague A. | I don't remember how it was Were there any emails between you and your es regarding the testing? You mean my colleagues in FloViz, | 12:18:41 12:18:44 12:18:45 | 3 4 | the ho | 144 ose? A. I don't believe it's in my report, and fore I don't think we actually measured the erature coming out of the hose. |
| 12:17:10 2 12:17:12 3 12:17:14 4 12:17:16 5 | A. Q. colleague A. Incorpor | I don't remember how it was Were there any emails between you and your es regarding the testing? You mean my colleagues in FloViz, ated. | 12:18:41 12:18:44 12:18:45 12:18:47 | 3 4 5 | the ho | 144 ose? A. I don't believe it's in my report, and fore I don't think we actually measured the erature coming out of the hose. Q. So sitting here today, the temperature |
| 12:17:10 2 12:17:12 3 12:17:14 4 12:17:16 5 12:17:17 6 | A. Q. colleague A. Incorpor Q. | I don't remember how it was Were there any emails between you and your es regarding the testing? You mean my colleagues in FloViz, ated. Yes. | 12:18:41 12:18:44 12:18:45 12:18:47 12:18:51 | 3 4 5 6 | the hotel the temporary coming coming the temporary coming coming the temporary coming the te | nose? A. I don't believe it's in my report, and fore I don't think we actually measured the erature coming out of the hose. Q. So sitting here today, the temperature and out of the hose could have been 40 degrees |
| 12:17:10 2 12:17:12 3 12:17:14 4 12:17:16 5 12:17:17 6 12:17:18 7 | A. Q. colleague A. Incorpor Q. A. | I don't remember how it was Were there any emails between you and your es regarding the testing? You mean my colleagues in FloViz, ated. Yes. If there were emails they were scheduling | 12:18:41 12:18:44 12:18:45 12:18:47 12:18:51 12:18:54 | 3 4 5 6 7 | the he therest temper comir instead | ose? A. I don't believe it's in my report, and fore I don't think we actually measured the erature coming out of the hose. Q. So sitting here today, the temperature ag out of the hose could have been 40 degrees and of 43; correct? |
| 12:17:10 2 12:17:12 3 12:17:14 4 12:17:16 5 12:17:17 6 12:17:18 7 12:17:21 8 | A. Q. colleague A. Incorpor Q. A. emails, y | I don't remember how it was Were there any emails between you and your es regarding the testing? You mean my colleagues in FloViz, ated. Yes. If there were emails they were scheduling you know, we're going to let's test | 12:18:41 12:18:44 12:18:45 12:18:47 12:18:51 12:18:54 12:18:56 | 3 4 5 6 7 8 | the he there temper comir instead | 144 ose? A. I don't believe it's in my report, and fore I don't think we actually measured the erature coming out of the hose. Q. So sitting here today, the temperature ng out of the hose could have been 40 degrees ad of 43; correct? A. Well it was 43 set on the blower unit. |
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|---|--|---|---|--|
| | | 145 | | 147 |
| 12:19:24 | Α. | The transfer of the hose. | 12:21:12 1 | scope of his opinions. |
| 12:19:27 | | the two- or three-step hose. Okay. | 12:21:16 2 | A. I have no reason to believe that 3M is |
| 12:19:27 3 | | MR. GOSS: Make sure to let him finish his | 12:21:23 | dishonest. |
| 12:19:28 4 | auestion | before you start to answer, otherwise it's | 12:21:24 | Q. So you never heard of any claims of 3M, you |
| 12:19:30 5 | • | be very, very difficult for our court | 12:21:27 5 | know, dumping chemicals in Minneapolis, there was a |
| 12:19:33 6 | reporter | | 12:21:30 6 | huge cleanup and lawsuit? |
| 12:19:33 7 | • | So you agree with me that the temperature | 12:21:31 7 | MR. GOSS: Objection, lack of foundation. |
| 12:19:36 | | ecrease from the en from the end where the | 12:21:35 | MR. ASSAAD: Is that not true? |
| 12:19:40 9 | unit is to | the end of the hose due to heat transfer | 12:21:38 9 | MR. GOSS: I think he's entitled to see |
| 12:19:43 10 | into the | environment through the hose. | 12:21:39 10 | whatever evidence you want to put in front of him. |
| 12:19:45 11 | Α. | Some decrease. I'm not sure how much. | 12:21:43 11 | MR. ASSAAD: I'm asking if he's aware of |
| 12:19:48 12 | Q. | Greater than one degree? | 12:21:45 12 | it. I'm trying to get evidence. |
| 12:19:49 13 | A. | I'm not sure how much. | 12:21:46 13 | A. I'm not aware of dumping chemicals. |
| 12:19:51 14 | Q. | Okay. Did you check the volumetric flow | 12:22:14 14 | Q. Sitting here today you have no basis to |
| 12:19:55 15 | coming o | out of the hose? | 12:22:16 15 | determine the credibility of 3M or its attorneys with |
| 12:19:56 16 | A. | I didn't have a way to measure volumetric | 12:22:20 16 | respect to whether or not they gave you a properly |
| 12:19:58 17 | flow, so | no. | 12:22:24 17 | functioning Bair Hugger unit; correct? |
| 12:20:00 18 | Q. | Okay. So you just assumed that 3M gave you | 12:22:27 18 | MR. GOSS: Objection to form, calls for |
| 12:20:03 19 | a proper | ly working device; correct? | 12:22:34 19 | speculation. |
| 12:20:05 20 | A. | Yes. | 12:22:43 20 | A. Could you repeat the question? |
| 12:20:05 21 | Q. | Okay. | 12:22:45 21 | Q. I'll withdraw the question if you can't |
| 12:20:07 22 | A. | It was a brand new device. | 12:22:48 22 | answer it. |
| 12:20:10 23 | Q. | Have you ever heard of a manufacturing | 12:22:50 23 | MR. GOSS: I'll just object to the |
| 12:20:11 24 | defect? | | 12:22:53 24 | commentary |
| 12:20:13 25 | A. | Of course. | 12:22:54 25 | Q. Have you been provided |
| | | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1 | -800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CO | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | | 4.40 | | |
| _ | _ | 146 | _ | 148 |
| 12:20:14 | Q. | Okay. So wouldn't it be | 12:22:55 | MR. ASSAAD: I'm sorry. You done? |
| 12:20:18 2 | | Okay. So wouldn't it be I mean, you tested your schlieren devices | 12:22:56 2 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. |
| | | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? | 12:22:56 2 12:22:57 3 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the |
| 12:20:18 2 | before y | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. | 12:22:56 2 12:22:57 3 12:23:01 4 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by |
| 12:20:18 2 12:20:19 3 12:20:25 4 12:20:28 5 | before yo A . Q . | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested | 12:22:56 2 12:22:57 3 12:23:01 4 12:23:04 5 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? |
| 12:20:18 2 12:20:19 3 12:20:25 4 12:20:28 5 12:20:30 6 | before you A. Q. it with a | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested hand and the candle. | 12:22:56 2 12:22:57 3 12:23:01 4 12:23:04 5 12:23:04 6 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? A. No. |
| 12:20:18 2 12:20:19 3 12:20:25 4 12:20:28 5 12:20:30 6 12:20:32 7 | before year. Q. it with a A. | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested hand and the candle. Okay. Yes. | 12:22:56 2 12:22:57 3 12:23:01 4 12:23:04 5 12:23:04 6 12:23:06 7 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? A. No. Q. Okay. Have you been provided any of the |
| 12:20:18 2 12:20:19 3 12:20:25 4 12:20:28 5 12:20:30 6 12:20:32 7 12:20:33 8 | before year. Q. it with a A. Q. | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested hand and the candle. Okay. Yes. Okay. You made the sure the camera was | 12:22:56 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? A. No. Q. Okay. Have you been provided any of the schematics of the Bair Hugger? |
| 12:20:18 2 12:20:19 3 12:20:25 4 12:20:28 5 12:20:30 6 12:20:32 7 12:20:33 8 12:20:35 9 | before year. Q. it with a A. Q. working | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested hand and the candle. Okay. Yes. Okay. You made the sure the camera was properly; correct? | 12:22:56 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? A. No. Q. Okay. Have you been provided any of the schematics of the Bair Hugger? A. Schematics came, and instructional or user's |
| 12:20:18 | before year. Q. it with a A. Q. working A. | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested hand and the candle. Okay. Yes. Okay. You made the sure the camera was properly; correct? Yes. | 12:22:56 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? A. No. Q. Okay. Have you been provided any of the schematics of the Bair Hugger? A. Schematics came, and instructional or user's manual type material came with the Bair Hugger blower |
| 12:20:18 | before year. A. Q. it with a A. Q. working A. Q. | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested hand and the candle. Okay. Yes. Okay. You made the sure the camera was properly; correct? Yes. You made sure that the mirrors were adjusted | 12:22:56 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? A. No. Q. Okay. Have you been provided any of the schematics of the Bair Hugger? A. Schematics came, and instructional or user's manual type material came with the Bair Hugger blower and the blanket. Those were all the documents we had |
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| 12:20:18 | before year. A. Q. it with a A. Q. working A. Q. properly A. Q. scientific A. Q. did you, | Okay. So wouldn't it be I mean, you tested your schlieren devices ou used it; correct? In the sense of manufacturing defects, no. No, but you test it to make sure, you tested hand and the candle. Okay. Yes. Okay. You made the sure the camera was properly; correct? Yes. You made sure that the mirrors were adjusted ; Yes correct? That's right. That's very important before you do a test; correct? Yes. Okay. But you did not do that in this case, for the Bair Hugger blower. No. | 12:22:56 | MR. ASSAAD: I'm sorry. You done? MR. GOSS: I'm done. Q. Have you been provided with any of the punitive damages motions against 3M or responded by 3M? A. No. Q. Okay. Have you been provided any of the schematics of the Bair Hugger? A. Schematics came, and instructional or user's manual type material came with the Bair Hugger blower and the blanket. Those were all the documents we had on it. Q. Have you Did you do any mathematical calculations as to what you would believe, from a theoretical standpoint, not experimental, of what the effect the Bair Hugger would have on the unidirectional flow? A. My study was an experimental study and not a computational study, so no such calculation was made. Q. Okay. Do you know how many BTUs per hour the Bair Hugger puts out when it's on high? |
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| | CO | CASE 0:15-md-02666-JNE-DTS Doc NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 40 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|--------------------|-----------|--|--------------------|---|
| _ | _ | 149 | _ | 151 |
| 12:24:12 1 | | It's in the literature in the na | 12:26:21 1 | Q. Okay. So in a case in which the 505 was |
| 12:24:15 2 | | e on the device. | 12:26:24 2 | used, your report has no relevance or reliability to |
| 12:24:16 3 | Q. | Okay. Are you aware of any device in the | 12:26:26 3 | it; correct? |
| 12:24:21 4 | operatin | g room that puts out more BTUs per hour than | 12:26:27 4 | MR. GOSS: Objection to form, report speaks |
| 12:24:24 5 | the Bair | Hugger? | 12:26:29 5 | for itself. |
| 12:24:29 6 | Α. | Well I'm aware that there are various heat | 12:26:32 6 | A. I don't know anything about the 505. |
| 12:24:31 7 | loads in | the operating room. There's electronic | 12:26:34 7 | Q. And that's my point. |
| 12:24:33 | | nt and other things. I don't think I should | 12:26:35 | So your report, since it has nothing to do |
| 12:24:38 | | e on what puts out more and what puts out | 12:26:37 | with the has no data on the 505 or no studies on |
| 12:24:38 | less. | e on what puts out more and what puts out | 12:26:37 3 | |
| | | Well and a second with man that the Defections | | the 505, does not apply to the Bair Hugger 505 device; |
| 12:24:42 11 | | Well you agree with me that the Bair Hugger | 12:26:45 11 | correct? |
| 12:24:43 12 | - | more BTUs per hour than an individual. | 12:26:45 12 | MR. GOSS: Same objection. |
| 12:24:47 13 | | Than a human. | 12:26:47 13 | A. I would have to have a look at the 505 |
| 12:24:48 14 | Q. | Yeah. | 12:26:51 14 | before I could give you a competent answer. |
| 12:24:52 15 | A. | Yeah. I think that's | 12:26:55 15 | Q. Well since your entire basis of your |
| 12:24:55 16 | Q. | You agree with that? | 12:26:58 16 | opinions is on experimental data, wouldn't you need |
| 12:24:56 17 | | I think that's reasonable. | 12:27:01 17 | the 505 to do experimental data to see how it affects |
| 12:24:57 18 | | It puts out more BTUs per hour than a | 12:27:05 18 | the operating room? |
| 12:25:02 19 | | r monitor. | 12:27:06 19 | A. I don't even know what the 505 is. |
| | • | | | |
| 12:25:06 20 | | I don't know how many BTUs per hour right | 12:27:09 20 | Q. Okay. So sitting here today, your since |
| 12:25:12 21 | | n't have a number for the Bair Hugger or the | 12:27:11 21 | you don't know what the 505 is, you can't say that |
| 12:25:14 22 | compute | r monitor or other equipment. | 12:27:14 22 | your report applies to the 505; correct? |
| 12:25:15 23 | Q. | So you didn't look at that at all; correct? | 12:27:16 23 | MR. GOSS: Same objection, the report |
| 12:25:18 24 | A. | That's not really an issue in | 12:27:17 24 | speaks for itself. |
| 12:25:18 25 | Q. | In what you | 12:27:19 25 | A. Correct. |
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| | | 150 | | 152 |
| 12:25:21 | | what was done in my study. | 12:27:22 1 | MR. ASSAAD: By the way, the report's not |
| 12:25:22 2 | Q. | Okay. It wasn't relevant to your study. | 12:27:23 2 | admissible in evidence and that's why I get opinions |
| 12:25:25 3 | Α. | No. | 12:27:26 3 | from him. |
| 12:25:26 4 | Q. | Okay. Did you look at the Moretti study? | 12:27:38 4 | BY MR. ASSAAD: |
| 12:25:35 5 | Does tha | t sound familiar? | 12:27:38 5 | Q. And you're not going to offer any opinions |
| 12:25:38 6 | Α. | No. | 12:27:40 6 | with respect to the air quality coming out of the Bair |
| 12:25:38 7 | Q. | Did you look it the Huang study? | 12:27:43 7 | Hugger blower or blanket; correct? As to whether or |
| 12:25:41 | A. | No. | 12:27:47 8 | not it's contaminated or not. |
| 12:25:41 | Q. | Did you look at | 12:27:48 | A. No. |
| | α. | You cited to a study by Farhad Memarzadeh. | 12:27:48 9 | _ |
| 12:25:43 10 | | | | , , , |
| 12:25:48 11 | Α. | Yes. | 12:27:53 11 | the previous models a few of the previous models of |
| 12:25:49 12 | Q. | Do you know him personally? | 12:27:56 12 | the Bair Hugger before the 775 warned of airborne |
| 12:25:49 13 | A. | No, I don't. | 12:27:59 13 | contamination when in use? |
| 12:25:50 14 | Q. | Are you aware that he did a study that | 12:28:01 14 | A. No. |
| 12:25:52 15 | indicated | that the older model, the 505 model, | 12:28:02 15 | Q. Would that affect your opinions in this |
| 12:25:57 16 | disrupted | the unidirectional airflow in the operating | 12:28:03 16 | case? |
| 12:26:03 17 | room? | | 12:28:04 17 | A. My opinions are based on the Bair Hugger 522 |
| 12:26:03 18 | | MR. GOSS: Object to form. | 12:28:10 18 | model and 575 power source that we used. |
| 12:26:05 19 | Α. | The 505 model of what? | 12:28:13 19 | Q. 775 power source. |
| 12:26:08 20 | Q. | The Bair Hugger. | 12:28:13 19 | A. 775. I'm not in a position to state an |
| | α. | | | • |
| 2:26:09 21 | | Do you know what the 505 model is? | 12:28:18 21 | opinion on earlier models or |
| 12:26:11 22 | Α. | No. | 12:28:22 22 | Q. I understand that, Mr. Settles, but you have |
| 12:26:13 23 | Q. | Okay. So sitting here today your report | 12:28:25 23 | to sit here and agree with me that you do not have all |
| 12:26:16 24 | only app | lies to the 775 and not the 505; correct? | 12:28:28 24 | the information with respect to the studies or the |
| 12:26:20 25 | Α. | Correct. | 12:28:31 25 | internal documents that are available when you |
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| | | 153 | | 155 |
| 12:28:37 | prepared | your expert report; correct? | 12:30:15 | MR. GOSS: Object to form, calls for |
| 12:28:40 2 | A. | We certainly didn't have information on | 12:30:16 2 | speculation. |
| 12:28:42 3 | previous | models of Bair Hugger, no. | 12:30:17 3 | Q. Were you aware of that? |
| 12:28:45 4 | Q. | And you do not have all the studies; | 12:30:18 4 | A. No. |
| 12:28:46 5 | correct? | | 12:30:30 5 | MR. GOSS: I could use another bathroom |
| 12:28:47 6 | A. | No. | 12:30:32 6 | break if you reach a point where that would make |
| 12:28:47 7 | | MR. GOSS: Objection to form. | 12:30:34 7 | sense. |
| 12:28:50 | | MR. ASSAAD: Basis? | 12:30:40 8 | Q. Do you |
| 12:28:51 9 | | MR. GOSS: He said he did a literature | 12:30:41 9 | Would you agree with me that 3M should be |
| 12:28:52 10 | research | a literature search. | 12:30:45 10 | the most knowledgeable about the devices they |
| 12:28:52 11 | | MR. ASSAAD: And he admitted he didn't | 12:30:47 11 | manufacture? |
| 12:28:52 12 | have | | 12:30:51 12 | A. Yes. |
| 12:28:54 13 | | MR. GOSS: I'm not sure | 12:30:52 13 | Q. And therefore they'd be aware of all the |
| 12:28:55 14 | | MR. ASSAAD: Sorry. Go ahead. | 12:30:55 14 | studies and all the research with respect to a certain |
| 12:28:58 15 | | MR. GOSS: I'm not sure that you've | 12:31:01 15 | with respect to the Bair Hugger? |
| 12:28:59 16 | establish | ed everything that he reviewed. | 12:31:01 16 | A. I really can't say what they're aware of. |
| 12:28:59 17 | | MR. ASSAAD: Well we admitted that he | 12:31:04 17 | Q. Well they would be the most knowledgeable |
| 12:29:01 18 | didn't ha | ve the Dr. Sessler study, so he definitely | 12:31:06 18 | about what's out there regarding the products they |
| 12:29:03 19 | didn't ha | ve all the studies. | 12:31:08 19 | sell; correct? |
| 12:29:05 20 | Q. | So you agree with that statement; correct? | 12:31:08 20 | A. I'm assuming that a manufacturer of a |
| 12:29:06 21 | You didn' | t have all the studies. | 12:31:10 21 | product would be very knowledgeable about their |
| 12:29:07 22 | Α. | That's right. | 12:31:11 22 | product. |
| 12:29:08 23 | Q. | Okay. You didn't have | 12:31:12 23 | Q. And they could have given you a lot more |
| 12:29:09 24 | | You didn't have some of those studies, | 12:31:14 24 | information than it seems like they did in this case; |
| 12:29:11 25 | correct, t | hat were provided to you yesterday before | 12:31:18 25 | correct? |
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| 12:29:13 | vou'd wri | tten your report; correct? | 12:31:19 1 | MR. GOSS: Object to form. |
| 12:29:14 | _ | Correct. | 12:31:19 2 | A. And I've already answered that my scientific |
| 12:29:15 3 | Q. | Okay. You didn't have any of the warnings | 12:31:24 3 | approach is it's up to me to go find the literature. |
| 12:29:16 4 | | provided to previous models; correct? | 12:31:27 4 | If I didn't have the Sessler report and some other |
| 12:29:20 5 | | I'm not sure what warnings you're referring | 12:31:31 5 | literature I consider it that it was a flaw in my |
| 12:29:22 6 | to. | - mines out of marking the market of the mar | 12:31:36 | literature search. I wasn't depending on 3M or their |
| 12:29:22 7 | _ | About airborne contamination. | 12:31:39 7 | legal team to provide me with the sets of references. |
| 12:29:24 | | No, I did not have. | 12:31:43 | Q. Well why recreate the wheel? I mean, if |
| 12:29:25 | | You were not provided internal data that 3M | 12:31:54 | there's other studies, don't you want to build on |
| 12:29:29 10 | | respect to the airflow of their models; | 12:31:56 10 | previous studies? |
| 12:29:31 11 | correct? | , | 12:31:58 11 | A. That's what a literature search is about, to |
| 12:29:31 12 | _ | No. No internal data, no. | 12:31:59 12 | educate myself. |
| 12:29:33 13 | | You weren't provided the Sessler study, | 12:32:00 13 | Q. Okay. |
| 12:29:35 14 | | s funded by 3M and paid for by 3M to | 12:32:00 14 | A. But a a scientist and an engineer, in |
| 12:29:40 15 | | the specific issues in this case. | 12:32:03 15 | order to remain objective, better to educate himself |
| 12:29:44 16 | - 3 4 15 | MR. GOSS: Object to form. | 12:32:08 16 | than to go looking for material that's already been |
| 12:29:46 17 | A. | I was not provided the Sessler report. | 12:32:13 17 | prepared by someone else. |
| 12:29:49 18 | | Okay. Were you provided the 5 | 12:32:15 18 | Q. I agree. |
| 12:29:49 10 | ٠. | Do you know what a 510(k) is? | 12:32:15 19 | But if 3M has internal documents or there is |
| 12:29:51 13 | Α. | No. | 12:32:15 13 | peer-reviewed literature that contradicts your |
| 12:29:54 20 | | Okay. Were you aware that other scientists | 12:32:20 20 | findings, wouldn't that have an effect on your |
| 12:30:03 22 | | ld, specifically scientists on the 3M | 12:32:32 21 | methodology with respect to what you did in this case? |
| 12:30:03 22 | | Board, recommended doing further research | 12:32:30 22 | A. Well |
| 12:30:07 23 12:30:09 24 | - | ect to whether or not the Bair Hugger | 12:32:35 23 | MR. GOSS: Objection, contrary to fact, |
| 12:30:09 24 | - | airflow in an operating room? | 12:32:35 24 | calls for speculation. |
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| | 157 | | 159 |
| 12:32:40 1 | A. I'm not aware of such literature. | 12:34:48 1 | A. I did some ancillary temperature |
| 12:32:43 2 | Q. So if there's literature out there that | 12:34:50 2 | measurements. These were secondary, but they're |
| 12:32:45 3 | indicates that particles increase over the surgical | 12:34:52 3 | they're in there. |
| 12:32:48 4 | site, okay, and that the heat is significantly | 12:34:52 4 | Q. By the way, what did you use for the |
| 12:32:52 5 | increased over the surgical site, which is contrary to | 12:34:54 5 | temperature measurements? |
| 12:32:55 6 | what you're finding, okay, that would have no effect | 12:34:55 6 | A. It's indicated in the report, it's a TSI |
| 12:32:59 7 | on your your the results of your tests | 12:34:58 7 | Model 9515 Air Velocity Meter. |
| 12:33:04 | MR. GOSS: Object to form, | 12:35:02 | Q. Okay. |
| 12:33:05 | Q and your confidence | 12:35:03 | A. Also measures temperature. |
| 12:33:07 10 | MR. GOSS: lack of foundation. | 12:35:05 10 | Q. I thought you told me before you couldn't |
| 12:33:08 11 | Q in the results? | 12:35:07 11 | measure velocity. |
| 12:33:10 12 | MR. GOSS: Object to form, lack of | 12:35:08 12 | A. I told you I couldn't measure mass flow |
| 12:33:11 13 | foundation, calls for speculation. | 12:35:10 13 | rate. |
| 12:33:15 14 | A. The way that's phrased I'm not even sure if | 12:35:11 14 | Q. Okay. |
| 12:33:19 15 | you're talking about particles that come through the | 12:35:11 15 | A. I can infer mass flow rate by measuring the |
| 12:33:23 16 | hose of a the Bair Hugger blanket or are somehow | 12:35:14 16 | velocity across a surface. |
| 12:33:28 17 12:33:33 18 | brought from somewhere else. | 12:35:15 17 12:35:20 18 | Q. Okay. And is that TSI temperature velocity meter, is that that you guys own, or was did you |
| | Particle contamination through the hose that you've mentioned is I realize it's a concern, but | 12:35:20 10 | guys rent it? |
| 12:33:36 19 12:33:39 20 | it's not within the scope of the work that we did. | 12:35:23 19 | A. We bought it brand new. |
| 12:33:39 20 | Q. I understand that. | 12:35:24 20 | Q. From this For this |
| 12:33:42 21 | But that would be something for you to | 12:35:25 21 | A. From TSI, a reputable Minnesota company. |
| 12:33:44 23 | determine, whether or not their particles are | 12:35:27 22 | Q. Okay. Was it calibrated? |
| 12:33:44 23 | increased because of what's coming out of the hose or | 12:35:32 23 | A. It was calibrated, and it came with its |
| 12:33:51 25 | because of convection currents; correct? I mean, that | 12:35:35 25 | calibration. |
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| 12:33:54 | would be part of your research your research on | 12:35:36 1 | Q. Did you not attach the calibration sheet to |
| 12:33:57 2 | this issue; correct? | 12:35:42 | the report? |
| 12:33:59 | MR. GOSS: Object to form. | 12:35:42 | A. I did not. |
| 12:34:01 4 | A. That | 12:35:42 | Q. Okay. |
| 12:34:03 5 | When you say "that," what are you referring | 12:35:54 5 | THE WITNESS: There's been a request for a |
| 12:34:05 | to? | 12:35:55 6 | break? |
| 12:34:05 7 | Q. Like Let me rephrase. | 12:35:55 7 | MR. ASSAAD: Okay. We can take a break. |
| 12:34:07 | As a scientist, before you do any type of | 12:35:58 | THE REPORTER: Off the record, please. |
| 12:34:10 9 12:34:13 10 | research you want to learn as much as possible about what other people did in the commun in the | 12:36:00 9 12:47:01 10 | (Recess taken from 12:36 to 12:47 p.m.) BY MR. ASSAAD: |
| 12:34:15 11 | scientific community; correct? | 12:47:01 10 | Q. Going back to Exhibit 2, page 18, your |
| 12:34:15 11 | A. Within | 12:47:06 11 | Critique of Expert Report by Said Elghobashi, number |
| 12:34:17 12 | Q. "Yes" or "no"? | 12:47:11 12 | 1). You'll agree with me that verification and |
| 12:34:17 13 | A. Within the limits | 12:47:19 13 | validation that we were discussing is specific to the |
| 12:34:19 15 | I can't give you a yes-or-no answer to that | 12:47:27 15 | CFD community; correct? |
| 12:34:21 16 | question. | 12:47:29 16 | A. It's a CFD concept. |
| 12:34:21 17 | Q. Okay. Within the limits of what? | 12:47:31 17 | Q. Okay. Okay. And you yourself don't hold |
| 12:34:23 18 | A. Within the limits of the scope of what I'm | 12:47:34 18 | yourself out as an expert with respect to CFD; |
| 12:34:25 19 | trying to do. But I was not trying to cover all | 12:47:39 19 | correct? |
| 12:34:29 20 | possible aspects of particles and so forth. I was | 12:47:40 20 | A. That's correct. |
| 12:34:34 21 | I have a limited scope to try to do schlieren imaging | 12:47:41 21 | Q. Okay. Let's talk about methodology, all |
| 12:34:39 22 | and try to get a picture of the airflow situation | 12:47:52 22 | right? |
| 12:34:44 23 | that's going that's happening. | 12:47:54 23 | And I want to be specific to your |
| 12:34:46 24 | Q. And you also did temperature measurements; | 12:47:57 24 | methodology in your testing in this case. |
| 12:34:48 25 | correct? | 12:47:59 25 | A. Okay. |
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| 40 of 89 she | 1-800-553-1953 info@stirewalt.com | 160 of 352 | 1-800-553-1953 info@stirewalt.com |

| CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER 161 1024600 1 Q. So I know you didn't create a protocol, but 2 let's just go through it so I understand what you did. 3 want to Just so I can understand what you did. 4 Fair enough? 2 let's just go through it so I understand what you did. 4 Fair enough? 2 let's just go through it so I understand what you did. 4 Fair enough? 4 Fair enough? 5 A. Well, as we discussed, I created a test 2 least 5 A. Well, as we discussed, I created a test 2 least 6 plan. 2 least 7 Q. Okay. And how was that placed up high? 4 least 9 same thing, but. 2 least 9 same thing, but. 2 least 1 Q. Okay. And so the first thing was is to set 1 least 2 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And so the first thing was is to set 1 least 3 Q. Okay. And who was that placed up high? 4 least 3 Q. Okay. And so was that placed up high? 5 least 3 Q. Okay. And so was that placed up high? 6 Q. Okay. And so was that placed up high? 7 least 3 Q. Okay. And how was that placed up high? 7 least 3 Q. Okay. And how was that placed up high? 7 least 3 Q. Okay. And how was that placed up high? 9 least 3 Q. Okay. And how was that placed up high? 9 least 3 Q. Okay. And how was that placed up high? 9 least 3 Q. Okay. And would do least 3 Q. | 161 12:48:00 1 Q. So I know you didn't create a protocol, but 12:48:03 2 let's just go through it so I understand that if I 12:48:06 3 want to Just so I can understand what you did. 12:48:11 4 Fair enough? 12:48:12 5 A. Well, as we discussed, I created a test 12:48:17 7 Q. Okay. 12:48:17 12:48:18 A. "Protocol," I am not sure that that's the 12:48:22 9 same thing, but. 12:48:23 10 Q. Your test plan would be considered your 12:48:25 11 methodology; correct? 12:48:26 12 A. That's right. |
|--|---|
| 1 Q. So I know you didn't create a protocol, but 124850 2 let's just go through it so I understand that if I 124850 3 want to Just so I can understand what you did. 124851 4 Fair enough? 124851 5 A. Well, as we discussed, I created a test 124851 6 plan. 125851 6 plan. 125851 8 A. "Protocol," I am not sure that that's the 124852 9 same thing, but. 125851 10 Q. Okay. And now was that placed up high? 125851 11 methodology; correct? 125851 11 | 1 Q. So I know you didn't create a protocol, but 12:48:03 2 let's just go through it so I understand that if I 12:48:06 3 want to Just so I can understand what you did. 12:48:11 4 Fair enough? 12:48:12 5 A. Well, as we discussed, I created a test 12:48:17 6 plan. 12:48:17 7 Q. Okay. 12:48:18 8 A. "Protocol," I am not sure that that's the 12:48:22 9 same thing, but. 12:48:23 10 Q. Your test plan would be considered your 12:48:25 11 methodology; correct? 12:48:26 12 A. That's right. |
| 12-860 2 elt's just go through it so I understand that if I 12-860 3 want to Just so I can understand what you did. 12-861 4 Fair enough? 5 A. Well, as we discussed, I created a test 12-861 5 A. Well, as we discussed, I created a test 12-861 6 plan. 12-861 7 Q. Okay. 12-861 8 A. "Protocol," I am not sure that that's the same thing, but. 12-861 9 A. The's right. 12-862 10 Q. Your test plan would be considered your methodology; correct? 12-862 11 Q. Okay. And so the first thing was is to set 12-862 12 A. That's right. 12-862 12 Q. Okay. And so the first thing was is to set 12-862 14 Up the the model, I would say; correct? 12-862 15 Correct. 12-862 16 A. Correct. 12-862 16 A. Correct. 12-862 17 A. The's right. 12-862 18 A. Correct. 12-862 19 A. It's in a warehouse building. 12-864 12-8 | 12:48:03 2 let's just go through it so I understand that if I 12:48:06 3 want to Just so I can understand what you did. 12:48:11 4 Fair enough? 12:48:12 5 A. Well, as we discussed, I created a test 12:48:17 7 Q. Okay. 12:48:18 8 A. "Protocol," I am not sure that that's the 12:48:22 9 same thing, but. 12:48:23 10 Q. Your test plan would be considered your 12:48:25 11 methodology; correct? 12:48:26 12 A. That's right. |
| 3 want to Just so I can understand what you did. 4 Fair enough? 5 A. Well, as we discussed, I created a test 124817 7 Q. Okay. A. "Protocol," I am not sure that that's the same thing, but. 124828 10 Q. Your test plan would be considered your methodology; correct? 124828 11 Q. Okay. And so the first thing was is to set up the the model, I would say; correct? 124828 12 A. That's right. 124828 15 Correct? 124828 16 A. Correct. 124839 17 Q. And it's my understanding you used a warehouse; correct? 124839 17 Q. And it's my understanding you used a warehouse; correct? 124839 18 Warehouse; correct? 124848 19 A. It's in a warehouse building. 124848 20 Q. Okay. Is that the warehouse building. 124848 21 A. It's a steel warehouse building. 124848 22 A. It's a steel warehouse building. 124848 23 Yeah. It's a steel warehouse building. 124848 24 Q. Okay. Is that the warehouse building? 124848 25 Yeah. It's a steel warehouse building? 124848 21 A. It's a steel warehouse building. 124848 22 A. It's a steel warehouse building. 124848 23 Yeah. It's a steel warehouse building. 124848 24 Q. Is that where Is that 124848 25 Yeah. It's a steel warehouse building? 124848 26 Q. Is that where Is that 124848 27 Yeah. It's a steel warehouse building? 124848 28 Yeah. It's a steel warehouse building? 124848 29 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 124848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 124848 2 Q. Is that the same address where FloViz is? 124849 2 Q. Okay. And inside the flow generator; 124858 1 A. We built one. 125006 6 A. We built one. 125007 6 A. It's suspended by cables and could be, to within a certain margin, raised or lowered actually 125007 11 Do you have a question? 22507 11 Do you have a question? 22507 13 A. Suspended from the ceiling. 22507 14 Q. Okay. And my understanding is the dimensions of that was 4 by 5 feet; correct? 125007 18 A. Correct. Q. Okay. And my understanding is the dimensions of that was 4 by 5 feet; correct? 125008 18 A. Eight ho | want to Just so I can understand what you did. 12:48:11 |
| 124811 4 Fair enough? 5 A. Well, as we discussed, I created a test 125004 5 A. We built one. 125004 7 A. It's suspended by cables and could be, to | 12:48:11 |
| tz4817 6 plan. tz4817 7 Q. Okay. A. "Protocol," I am not sure that that's the takez 1 taxez 2 g same thing, but. tz4823 10 Q. Your test plan would be considered your methodology; correct? tz4828 11 Methodology; correct? tz4828 12 A. That's right. tz4828 13 Q. Okay. And so the first thing was is to set up the the model, I would say; correct? tz4828 14 up the the model, I would say; correct? tz4828 15 Correct. tz4828 16 A. Correct. tz4828 17 Q. And it's my understanding you used a warehouse; correct? tz4828 18 warehouse; correct? tz4828 19 A. It's in a warehouse building. Q. Okay. Is that the warehouse building. Q. Okay. Is that the warehouse building. Tz4848 12 A. It's a steel warehouse building. Q. Okay. Is that where Is that What's the address of that building? Tz4848 12 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 2 Q. Is that the same address where FloViz is? Tz4848 1 A. 76 Sky Harbor Drive, Port Matilda, PA. Tz4848 2 Q. Is that the same address where FloViz is? | 12:48:12 |
| tz4817 7 Q. Okay. A. "Protocol," I am not sure that that's the same thing, but. 124822 10 Q. Your test plan would be considered your methodology; correct? 124822 11 Do you have a question? 124822 12 A. That's right. Q. Okay. And so the first thing was is to set up the the model, I would say; correct? 124823 15 Correct? 124823 16 A. Correct. 124823 17 Q. Okay. And so the first thing was is to set up the the model, I would say; correct? 124823 18 A. Correct. 124824 19 A. It's in a warehouse building. 124824 19 A. It's in a warehouse building. 12482 21 FloViz is located? 12482 22 A. It's a 12482 23 Yeah. It's a steel warehouse building. 12483 24 Q. Is that where Is that 12483 25 What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 12483 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 12483 2 Q. Is that the same address where FloViz is? 2 a a flow distributor; correct? | 12:48:17 |
| 1248.17 7 Q. Okay. A. "Protocol," I am not sure that that's the same thing, but. 1248.22 9 same thing, but. 1248.23 10 Q. Your test plan would be considered your methodology; correct? 1248.28 11 Do you have a question? 1248.28 12 A. That's right. 1248.28 13 Q. Okay. And so the first thing was is to set up the model, I would say; correct? 1248.28 15 Correct. 1248.28 16 A. Correct. 1248.29 17 Q. And it's my understanding you used a warehouse; correct? 1248.29 17 Q. And it's my understanding you used a warehouse; correct? 1248.30 17 Q. Okay. Is that the warehouse building. 1248.31 19 A. It's in a warehouse building. 1248.32 20 Q. Okay. Is that the warehouse building that 1248.32 21 PloViz is located? 1248.32 21 Yeah. It's a steel warehouse building? 1248.32 24 Q. Is that where Is that What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 1248.52 2 Q. Is that the same address where FloViz is? 1248.55 2 Q. Is that the same address where FloViz is? 125010 7 A. It's a suspended by cables and could be, to within a certain margin, raised or lowered actually with think it was we had much margin. So it was 11 don't think it was we had much margin. So it was 125021 10 I Sorry. 125021 10 I Sorry. 125021 11 Do you have a question? 125021 11 Do you have a question? 125021 12 Q. Yes. So it was suspended from the ceiling. 4. A. Suspended from the ceiling. 4. Correct. 4. B. The sus suspended from the ceiling. 5. A. Suspended from the ceiling. 6. Okay. And that was suspended from the ceiling. 8. A. Suspended from the ceiling. 9. A. Eight horsepower blower. 125031 17 Q. Okay. 125021 13 A. Suspended from the ceiling. 125021 14 Q. Okay. 126021 10 Q. Okay. And my understanding the dimensions of that was 4 by 5 feet; correct? 12 | 12:48:17 7 Q. Okay. 12:48:18 8 A. "Protocol," I am not sure that that's the 12:48:22 9 same thing, but. 12:48:23 10 Q. Your test plan would be considered your 12:48:25 11 methodology; correct? 12:48:26 12 A. That's right. |
| 124818 8 A. "Protocol," I am not sure that that's the same thing, but. 124812 9 Same thing, but. 124812 10 Q. Your test plan would be considered your methodology; correct? 124812 11 methodology; correct? 124812 12 A. That's right. 124812 13 Q. Okay. And so the first thing was is to set up the the model, I would say; correct? 124812 14 up the the model, I would say; correct? 124813 15 Correct. 124813 16 A. Correct. 124813 17 Q. And it's my understanding you used a warehouse; correct? 124814 19 A. It's in a warehouse building. 124814 19 A. It's in a warehouse building. 124814 19 A. It's in a warehouse building. 124815 21 Q. Okay. And my understanding is the dimensions of that was 4 by 5 feet; correct? 125934 16 A. Correct. 125934 17 Q. And it's my understanding you used a warehouse; correct? 125934 17 Q. And that was powered by an eight horsepower motor; correct? 124814 19 A. It's in a warehouse building. 124815 20 Q. Okay. Is that the warehouse building that 124816 21 A. It's a steel warehouse building. 124815 24 Q. Is that where Is that What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12485 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 12485 2 Q. Is that the same address where FloViz is? 125048 1 Q. Okay. And inside the flow generator you had a trottle or that to control the volume of air; correct? A. Suspended from the ceiling. 125027 13 A. Suspended from the ceiling. Q. Okay. And my understanding is the dimensions of that was 4 by 5 feet; correct? A. Correct. 125034 16 A. Correct. 125034 17 Q. Okay. A. It's in a warehouse building. 125037 18 A. Correct. 125038 19 A. Eight horsepower blower. 125038 19 A. Eight horsepower blower. 125048 21 Correct? 125048 22 A. It's a What's the address of that building? 125049 21 Correct? 125049 21 Cor | 12:48:18 A. "Protocol," I am not sure that that's the 12:48:22 9 same thing, but. 12:48:23 10 Q. Your test plan would be considered your 12:48:25 11 methodology; correct? 12:48:26 A. That's right. |
| 124822 9 same thing, but. 124822 10 Q. Your test plan would be considered your methodology; correct? 124828 11 methodology; correct? 24828 12 A. That's right. 124828 13 Q. Okay. And so the first thing was is to set up the the model, I would say; correct? 124838 16 A. Correct. 124838 16 A. Correct. 124838 17 Q. And it's my understanding you used a warehouse; correct? 124848 19 A. It's in a warehouse building. 124848 20 Q. Okay. Is that the warehouse building that 124848 21 Places 22 Places 22 Places 22 Places 24 Q. Is that where Is that 124838 25 What's the address of that building? 162 STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 124838 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 124838 2 Q. Is that the same address where Floviz is? 25004 1 Q. Okay. And inside the flow generator you had a rate flow distributor; correct? | same thing, but. 12:48:23 10 Q. Your test plan would be considered your 12:48:25 11 methodology; correct? 12:48:26 12 A. That's right. |
| 124825 10 Q. Your test plan would be considered your methodology; correct? 124826 11 methodology; correct? 124826 12 A. That's right. 124826 13 Q. Okay. And so the first thing was is to set 125024 11 Do you have a question? 124827 14 up the the model, I would say; correct? 124838 15 Correct? 124838 16 A. Correct. 124839 17 Q. And it's my understanding you used a 125024 16 A. Correct. 124839 17 Q. And it's my understanding you used a 125024 17 Q. And that was powered by an eight horsepower 125024 18 warehouse; correct? 124849 19 A. It's in a warehouse building. 124849 20 Q. Okay. Is that the warehouse building that 12504 21 FloViz is located? 124849 21 FloViz is located? 124849 22 A. It's a 124849 24 Q. Is that where Is that 124849 25 What's the address of that building? 124849 26 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 A. 76 Sky Harbor Drive, Port Matilda, PA. 124849 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 124849 2 Q. Is that the same address where FloViz is? 125024 11 Do you have a question? 125024 12 Q. Yes. So it was suspended from the ceiling. A. Suspended from the ceiling. A. Correct. Q. Okay. And my understanding is the dimensions of that was 4 by 5 feet; correct? A. Correct. Q. And that was powered by an eight horsepower motor; correct? 125034 17 Q. Okay. A. Eight horsepower blower. Q. Okay. A. In other words, it had an eight horsepower motor. 125040 20 Q. Okay. And you had a throttle on that to control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 124650 2 Q. Okay. And inside the flow generator you had a a a flow distributor; correct? | Q. Your test plan would be considered your methodology; correct? A. That's right. |
| 124826 12 A. That's right. 124826 13 Q. Okay. And so the first thing was is to set 125024 12 up the the model, I would say; correct? 124838 15 Correct? 124838 16 A. Correct. 124839 17 Q. And it's my understanding you used a 125024 17 Warehouse; correct? 124830 18 warehouse; correct? 124830 19 A. It's in a warehouse building. 124832 20 Q. Okay. Is that the warehouse building that 124832 21 Floviz is located? 124832 22 A. It's a 125034 17 Wat's the address of that building? 124835 24 Q. Is that where Is that What's the address of that building? 125034 17 Q. And that was powered by an eight horsepower motor; correct? 125034 19 A. Eight horsepower blower. 125034 19 A. Eight horsepower blower. 125034 21 In other words, it had an eight horsepower motor. 125034 22 Q. Okay. Is that where Is that What's the address of that building? 125034 21 Ic'soa 125035 21 Ic'soa 125036 21 Ic'soa 125037 21 Ic'soa 125038 22 Q. Okay. And you had a throttle on that to control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 124858 2 Q. Is that the same address where Floviz is? 25048 1 Q. Okay. And inside the flow generator you had a a flow distributor; correct? | 12:48:25 11 methodology; correct? 12:48:26 12 A. That's right. |
| 12-48-26 12 A. That's right. 12-48-26 13 Q. Okay. And so the first thing was is to set 12-48-32 14 up the the model, I would say; correct? 12-48-38 15 Correct. 12-48-39 16 A. Correct. 12-48-39 17 Q. And it's my understanding you used a 12-28-41 19 A. It's in a warehouse building. 12-28-41 19 A. It's in a warehouse building. 12-28-41 19 FloViz is located? 12-28-43 20 Q. Okay. Is that the warehouse building that 12-28-44 21 FloViz is located? 12-28-45 22 A. It's a 12-28-45 25 What's the address of that building? 12-28-45 1 12-28-55 12-38-55 12-38-55 12-38-55 1- 12-38-55 | 12:48:26 12 A. That's right. |
| 124828 13 Q. Okay. And so the first thing was is to set 124838 14 up the the model, I would say; correct? 124838 15 Correct? 124838 16 A. Correct. 124839 17 Q. And it's my understanding you used a 125034 16 A. Correct. 124839 18 warehouse; correct? 124849 19 A. It's in a warehouse building. 124849 20 Q. Okay. Is that the warehouse building that 124849 21 FloViz is located? 124849 22 A. It's a 124849 24 Q. Is that where Is that 124849 25 What's the address of that building? 124859 24 Q. Is that where Is that 124859 25 What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 124858 2 Q. Is that the same address where FloViz is? 21 Q. Okay. And my understanding is the dimensions of that was 4 by 5 feet; correct? Q. Okay. And that was powered by an eight horsepower motor; correct? Q. And that was powered by an eight horsepower motor; correct? A. Eight horsepower blower. Q. Okay. A. In other words, it had an eight horsepower motor. 25049 20 Q. Okay. And you had a throttle on that to 125049 21 A. In other words, it had an eight horsepower motor. 25049 22 control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 124858 1 Q. Okay. And inside the flow generator you had 125048 1 Q. Okay. And inside the flow generator you had | _ |
| 1248.32 14 up the the model, I would say; correct? 1248.38 15 Correct? 1248.38 16 A. Correct. 1248.39 17 Q. And it's my understanding you used a 1248.40 18 warehouse; correct? 1248.40 19 A. It's in a warehouse building. 1248.43 20 Q. Okay. Is that the warehouse building that 1248.43 21 FloViz is located? 1248.40 22 A. It's a 1248.40 24 Q. Is that where Is that 1248.50 24 Q. Is that where Is that building? 1248.50 24 Q. Is that where Is that building? 1248.50 25 What's the address of that building? 1248.50 26 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 1248.50 2 Q. Is that the same address where FloViz is? 1250.50 2 Q. Is that the same address where FloViz is? 1250.50 2 Q. Is that the same address where FloViz is? 1250.50 2 Q. Okay. And my understanding is the dimensions of that was 4 by 5 feet; correct? A. Correct. Q. And that was powered by an eight horsepower motor; correct? 1250.34 17 Q. And that was powered by an eight horsepower motor; correct? 1250.34 18 motor; correct? 1250.34 19 A. Eight horsepower blower. Q. Okay. A. In other words, it had an eight horsepower motor. 1250.34 21 A. Correct. 1250.40 20 Q. Okay. A. In other words, it had an eight horsepower motor. 1250.34 21 A. Correct. 1250.40 20 Q. Okay. A. In other words, it had an eight horsepower motor. 1250.40 21 A. In other words, it had an eight horsepower motor. 1250.40 22 A. In other words, it had an eight horsepower motor. 1250.40 22 A. In other words, it had an eight horsepower motor. 1250.40 22 A. In other words, it had an eight horsepower motor. 1250.40 21 A. In other words, it had an eight horsepower motor. 1250.40 22 A. In other words, it had an eight horsepower motor. 1250.40 21 A. In other words, it had an eight horsepower motor. 1250.40 22 A. In other words, it had an eight horsepower motor. 1250.40 21 A. Correct. 1250.40 22 A. In other words, it had an eight horsepower motor. 1250.40 22 A. Correct. 1250.40 24 A. Correct. 1250.40 20 A. Correct. 1250.40 20 A. Correct. 1250.40 20 A. Correct. | 12. Oray! This so the mot timing was is to set |
| 1248.38 15 Correct? 1248.38 16 A. Correct. 1248.39 17 Q. And it's my understanding you used a 1248.40 18 warehouse; correct? 1248.41 19 A. It's in a warehouse building. 1248.42 20 Q. Okay. Is that the warehouse building that 1248.42 21 FloViz is located? 1248.43 22 A. It's a 1248.47 23 Yeah. It's a steel warehouse building. 1248.49 24 Q. Is that where Is that 1248.50 24 Q. Is that where Is that 1248.50 25 What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 1248.58 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 1250.48 1 Q. Okay. And inside the flow generator you had a lizebea 2 Q. | 124832 14 up the the model. I would say: correct? |
| 1248:38 16 A. Correct. 1248:39 17 Q. And it's my understanding you used a 1250:34 16 A. Correct. 1248:40 18 warehouse; correct? 1248:41 19 A. It's in a warehouse building. 1248:42 20 Q. Okay. Is that the warehouse building that 1250:42 21 FloViz is located? 1248:42 22 A. It's a 1248:42 23 Yeah. It's a steel warehouse building. 1248:52 25 What's the address of that building? 1248:52 25 What's the address of that building? 1250:43 21 STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 1248:54 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 1250:55 2 A. Correct. 1250:55 2 A. Correct. 1250:55 2 A. Okay. And that was powered by an eight horsepower 1250:55 1950:75 18 motor; correct? 1250:43 19 A. Eight horsepower blower. 1250:43 20 Q. Okay. 1250:44 20 Q. Okay. 1250:44 21 A. In other words, it had an eight horsepower 1250:43 22 motor. 1250:43 23 Q. Okay. And you had a throttle on that to 1250:45 24 Correct. 1250:47 25 A. Correct. 1250:47 25 A. Correct. 1250:47 25 A. Correct. 1250:48 1 Q. Okay. And inside the flow generator you had a flow distributor; correct? 1248:59 2 Q. Is that the same address where FloViz is? 1250:48 1 Q. Okay. And inside the flow generator you had a flow distributor; correct? | |
| 124839 17 Q. And it's my understanding you used a 124840 18 warehouse; correct? 124841 19 A. It's in a warehouse building. 124843 20 Q. Okay. Is that the warehouse building that 124845 21 FloViz is located? 124846 22 A. It's a 124840 23 Yeah. It's a steel warehouse building. 124850 24 Q. Is that where Is that 124852 25 What's the address of that building? 124852 25 What's the address of that building? 125040 20 Q. Okay. 125040 21 A. In other words, it had an eight horsepower 125040 20 Q. Okay. A. In other words, it had an eight horsepower 125040 21 A. In other words, it had an eight horsepower 125040 21 A. In other words, it had an eight horsepower 125040 21 A. In other words, it had an eight horsepower 125040 21 A. In other words, it had an eight horsepower 125040 21 A. In other words, it had an eight horsepower 125040 21 A. In other words, it had | 1 |
| 12.48.40 18 warehouse; correct? 12.48.41 19 A. It's in a warehouse building. 12.48.43 20 Q. Okay. Is that the warehouse building that 12.48.45 21 FloViz is located? 12.48.46 22 A. It's a 12.48.47 23 Yeah. It's a steel warehouse building. 12.48.50 24 Q. Is that where Is that 12.48.50 25 What's the address of that building? 12.48.50 26 Yeah. It's a steel warehouse building? 12.50.40 27 A. In other words, it had an eight horsepower motor. 12.50.43 22 motor. 12.50.43 23 Q. Okay. And you had a throttle on that to control the volume of air; correct? 12.50.40 24 Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12.48.54 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 12.50.48 1 Q. Okay. And inside the flow generator you had a a flow distributor; correct? | |
| 12.48.41 19 A. It's in a warehouse building. 12.48.43 20 Q. Okay. Is that the warehouse building that 12.48.45 21 FloViz is located? 12.48.46 22 A. It's a 12.48.47 23 Yeah. It's a steel warehouse building. 12.48.50 24 Q. Is that where Is that 12.48.52 25 What's the address of that building? 12.48.52 25 What's the address of that building? 12.48.50 24 Q. Is that where Is that 12.50.40 20 Q. Okay. 12.50.40 21 A. In other words, it had an eight horsepower motor. 12.50.43 22 motor. 12.50.43 23 Q. Okay. And you had a throttle on that to control the volume of air; correct? What's the address of that building? 12.50.47 25 A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12.48.54 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 12.50.48 1 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 164 12.50.48 1 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? 12.50.48 24 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? 12.50.48 21 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? 12.50.48 21 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? | |
| 12:48:43 20 Q. Okay. Is that the warehouse building that 12:48:45 21 FloViz is located? 12:48:46 22 A. It's a 12:48:47 23 Yeah. It's a steel warehouse building. 12:48:50 24 Q. Is that where Is that 12:48:50 25 What's the address of that building? 12:48:50 26 Uhay. And you had a throttle on that to 12:50:43 22 Ohay. And you had a throttle on that to 12:50:46 24 Control the volume of air; correct? 12:50:46 24 Control the volume of air; correct? 12:50:47 25 A. Correct. 12:50:48 26 STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 164 12:48:58 2 Q. Okay. And inside the flow generator you had a throttle on that to 12:50:48 21 A. In other words, it had an eight horsepower motor. 12:50:48 22 Motor. 12:50:48 21 A. In other words, it had an eight horsepower motor. 12:50:48 22 Motor. 12:50:48 21 A. In other words, it had an eight horsepower motor. 12:50:48 22 Motor. 12:50:48 21 A. In other words, it had an eight horsepower motor. 12:50:48 22 Motor. 12:50:48 21 A. In other words, it had an eight horsepower motor. 12:50:48 22 Motor. 12:50:48 22 Motor. 12:50:48 23 Q. Okay. And you had a throttle on that to 12:50:48 24 Control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 | |
| 12:48:45 21 FloViz is located? A. It's a 12:48:47 23 Yeah. It's a steel warehouse building. 12:48:50 24 Q. Is that where Is that 12:48:50 25 What's the address of that building? 12:48:52 25 What's the address of that building? 13:50:47 25 A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12:50:48 21 A. In other words, it had an eight horsepower motor. 12:50:43 22 motor. 12:50:43 23 Q. Okay. And you had a throttle on that to control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12:50:48 1 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12:50:48 1 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? | |
| A. It's a 12:48:46 22 Yeah. It's a steel warehouse building. 12:48:47 23 Yeah. It's a steel warehouse building. 12:48:50 24 Q. Is that where Is that 12:50:48 24 Control the volume of air; correct? What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12:50:48 1 Q. Okay. And you had a throttle on that to control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 164 12:48:58 1 Q. Okay. And inside the flow generator you had a throttle on that to 12:50:48 24 control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 164 12:50:48 1 Q. Okay. And inside the flow generator you had a throttle on that to 12:50:48 24 control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 164 12:50:48 1 Q. Okay. And inside the flow generator you had a throttle on that to | , |
| Yeah. It's a steel warehouse building. Q. Is that where Is that What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 A. 76 Sky Harbor Drive, Port Matilda, PA. 12:48:58 Q. Okay. And you had a throttle on that to control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 A. 76 Sky Harbor Drive, Port Matilda, PA. 12:50:48 Q. Okay. And you had a throttle on that to control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 164 A. 76 Sky Harbor Drive, Port Matilda, PA. 12:50:48 Q. Okay. And inside the flow generator you had a throttle on that to control the volume of air; correct? | |
| Q. Is that where Is that 12:48:50 24 What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12:50:48 24 control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 164 12:48:54 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 12:50:48 24 control the volume of air; correct? A. Correct. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 164 12:50:48 1 Q. Okay. And inside the flow generator you had a real flow distributor; correct? | |
| What's the address of that building? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 12:48:54 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 12:48:58 2 What's the address of that building? STIREWALT & ASSOCIATES STIREWALT & ASSOCIATES CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 162 164 12:50:48 1 Q. Okay. And inside the flow generator you had a real flow distributor; correct? | |
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| 162 12:48:54 1 A. 76 Sky Harbor Drive, Port Matilda, PA. 12:48:58 Q. Is that the same address where FloViz is? 164 12:50:48 1 Q. Okay. And inside the flow generator you had a recommendation of the properties o | 1-800-553-1953 info@stirewalt.com |
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| 12.48.58 2 Q. Is that the same address where FloViz is? 12.50.58 2 a a flow distributor; correct? | |
| | - |
| 12:49:01 3 A. That's the address of the company. 12:51:08 3 A. Yes. | |
| | _ |
| 12:49:02 4 Q. Is it Is it 12:51:09 4 Q. And what was that constructed of? | |
| 5 Did you rent that warehouse for this 12:51:11 5 A. On Figure 3 you'll see it diagramed. It has | |
| 12:49:04 6 project? 12:51:14 6 a It's constructed of a filter material, furnace | · - |
| 12.49:05 7 A. No. It's on the property. It's owned by 12.51:18 7 filter material. | |
| 12.49:07 8 the president of the company. 12.51:19 8 Q. Okay. And then you had an aluminum | |
| 9 Q. Okay. And the room in which you did the 12:51:21 9 honeycomb? 12:49:13 10 testing, how big was that room? 12:51:22 10 A. That's right. | |
| | |
| 12:49:15 11 A. Approximately fifty 50 feet long, and the 12:51:23 11 Q. What was the purpose of the aluminum 12:49:20 12 space available was 25 feet wide. 12:51:24 12 honeycomb? | |
| 12:49:20 12 Space available was 25 feet wide. 12:51:24 12 Honeycomb? 12:49:25 13 | · |
| 12:49:28 14 A. Umm-hmm. Correct. 12:51:28 14 supports the furnace-filter interior. | · · |
| | 12.49.20 14 AL OHILL HILLI. COLLECT. |
| | |
| ' | 12:49:29 15 Q. How tall; how high is the ceiling? |
| · · | 12:49:29 15 Q. How tall; how high is the ceiling? A. It's a peaked roof, and I would say that's |
| | 12:49:29 15 Q. How tall; how high is the ceiling? 12:49:32 16 A. It's a peaked roof, and I would say that's 12:49:36 17 20 20 to 25 feet. |
| | 12:49:29 15 Q. How tall; how high is the ceiling? 12:49:32 16 A. It's a peaked roof, and I would say that's 12:49:36 17 20 20 to 25 feet. 12:49:39 18 Q. Twenty to twenty-five feet? |
| | 12:49:29 15 |
| | 12:49:29 |
| | 12:49:29 |
| | 12:49:29 |
| 12:49:51 25 A. It's underneath the peak. 12:51:54 25 Q. Okay. All right. And then you had a a | 12:49:29 |
| STIREWALT & ASSOCIATES STIREWALT & ASSOCIATES | 12:49:29 |
| 1-800-553-1953 info@stirewalt.com 1-800-553-1953 info@stirewalt.com | 12:49:29 |

| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 44 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|---|---|--|---|
| | 165 | | 167 |
| 12:52:04 | simulation of an operating room table; correct? | 12:54:29 1 | A. The table |
| 12:52:07 | A. That's right. | | This was built of plywood, it was we were |
| 12:52:07 2 | Q. What was that constructed of? | 12:54:31 2 12:54:33 3 | able to raise it and lower it. The typical height was |
| 12:52:07 4 | A. Plywood. | 12:54:39 4 | 48 inches, the table was 20 inches wide, and I believe |
| .2.02 | Q. Plywood. And explain it to me how it was | 12:54:46 5 | it was six feet long. |
| | constructed. | 12:54:46 6 | Q. Okay. |
| 12:52:14 6 12:52:15 7 | A. Do you mean its design, or? | 12:54:46 7 | A. And it stood on a pedestal similar, in |
| 12:52:15 | Q. What are the dimensions? | 12:54:47 | general, to the kind of pedestals that you will find |
| 12:52:19 | A. All right. Well I don't have my logbook in | 12:54:53 | on actual operating room tables. |
| 12:52:25 10 | front of me, but we it was modeled upon a surgical | 12:54:55 10 | Q. Was it a wood pedestal or metal? |
| 12:52:29 11 | table. We looked at actually buying a surgical table, | 12:54:58 11 | A. Wood pedestal. |
| 12:52:31 12 | and these are very expensive and and it takes time | 12:54:59 12 | Q. And you said it was adjustable? |
| 12:52:36 13 | to get it shipped, so the simpler solution was to | 12:55:01 13 | A. The entire device could be built up on on |
| 12:52:40 14 | build a mock-up. | 12:55:04 14 | blocks to be raised above floor level. |
| 12:52:49 15 | MR. ASSAAD: I want to apologize because | 12:55:08 15 | Q. Raiser blocks; correct? |
| 12:52:50 16 | for some reason I don't have three copies of the | 12:55:09 16 | A. Yes. |
| 12:52:53 17 | logbook. But I have one, and I can use mine online. | 12:55:10 17 | Q. Okay. Now throughout the entire experiment |
| 12:52:56 18 | So let's mark this as Exhibit Number 7? | 12:55:12 18 | did you ever change the height? |
| 12:52:59 19 | THE REPORTER: Correct. | 12:55:13 19 | A. We did. |
| 12:52:59 20 | (Settles Exhibit 7 marked for | 12:55:14 20 | Q. To what? |
| 12:52:59 21 | identification.) | 12:55:15 21 | A. In the |
| 12:52:59 22 | BY MR. ASSAAD: | 12:55:17 22 | Well this refers to the material that was in |
| 12:53:15 23 | Q. What's been marked as Exhibit 7 is a | 12:55:23 23 | Exhibit 1. But it was necessary to raise the height |
| 12:53:18 24 | logbook, a redacted logbook that was redacted by, I | 12:55:31 24 | so that because the 30-inch circle of the schlieren |
| 12:53:22 25 | guess the attorneys in this case, that's been provided | 12:55:34 25 | mirror is not movable. So if you want to look |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 166 | | 168 |
| 12:53:24 | to me. | 12:55:38 | underneath the surgical table you have to raise the |
| | | | underneath the surgical table you have to raise the |
| 12:53:24 | Is that the logbook you're referring to? | 12:55:42 2 | table, |
| 12:53:24 2 12:53:26 3 | Is that the logbook you're referring to? A. Correct. | 12:55:42 2 12:55:43 3 | |
| _ | | | table, |
| 12:53:26 3 | A. Correct. | 12:55:43 | table, Q. When you |
| 12:53:26 3 12:53:27 4 | A. Correct. Q. Okay. Now | 12:55:43 3 12:55:43 4 | table, Q. When you A and in this case |
| 12:53:26 3 12:53:27 4 12:53:34 5 | A. Correct.Q. Okay. NowA. If you will | 12:55:43 3 12:55:43 4 12:55:44 5 | Q. When youA and in this caseQ. Go ahead. I'm sorry. |
| 12:53:26 3 12:53:27 4 12:53:34 5 12:53:35 6 | A. Correct. Q. Okay. Now A. If you will Q. Before I get to the question, I just want | 12:55:43 3 12:55:43 4 12:55:44 5 12:55:45 6 | Q. When you A and in this case Q. Go ahead. I'm sorry. A. In this case, and I'm going to I don't |
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| 12:53:26 | A. Correct. Q. Okay. Now A. If you will Q. Before I get to the question, I just want A. I'm sorry. Q. What has been redacted, to your knowledge, with respect to the first three pages or four pages? MR. GOSS: Hold on. I will state for the record that what has been redacted is notes of conversations with counsel and items that counsel for 3M deemed to be attorney work product. Q. Is anything that's been redacted any of the facts that you're relying upon that you used to create your testing method? A. I don't think so, no. Q. Okay. So let's go to the operating room table. A. All right. Q. So what did you look at to create your operating room table? A. Top left of page 7, and it's a brief sketch. Q. Wait. Hold on one second. Top page of | 12:55:43 | Q. When you A and in this case Q. Go ahead. I'm sorry. A. In this case, and I'm going to I don't exactly know the number of the feet that it was raised. Wait a minute. Q. Are we talking about on page 12 with respect to the the schlieren view of the feet? [Exhibit 1.] A. That's right. Page 12, Figure 11 a. So the floor level effectively was raised up to the mirror height around 48 inches. Q. So you raised up the floor by 48 inches. A. Or Or some value approaching it. Q. Is that anywhere in your notes? A. Exactly what the number was? Q. Yeah. A. I don't think so. Q. Don't you think that would have been helpful to determine the height of the table? A. Well actually I could get that easy enough easily enough because I know the height of the circle, and there's the floor [indicating]. |
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| 12:53:26 | A. Correct. Q. Okay. Now A. If you will Q. Before I get to the question, I just want A. I'm sorry. Q. What has been redacted, to your knowledge, with respect to the first three pages or four pages? MR. GOSS: Hold on. I will state for the record that what has been redacted is notes of conversations with counsel and items that counsel for 3M deemed to be attorney work product. Q. Is anything that's been redacted any of the facts that you're relying upon that you used to create your testing method? A. I don't think so, no. Q. Okay. So let's go to the operating room table. A. All right. Q. So what did you look at to create your operating room table? A. Top left of page 7, and it's a brief sketch. Q. Wait. Hold on one second. Top page of | 12:55:43 | Q. When you A and in this case Q. Go ahead. I'm sorry. A. In this case, and I'm going to I don't exactly know the number of the feet that it was raised. Wait a minute. Q. Are we talking about on page 12 with respect to the the schlieren view of the feet? [Exhibit 1.] A. That's right. Page 12, Figure 11 a. So the floor level effectively was raised up to the mirror height around 48 inches. Q. So you raised up the floor by 48 inches. A. Or Or some value approaching it. Q. Is that anywhere in your notes? A. Exactly what the number was? Q. Yeah. A. I don't think so. Q. Don't you think that would have been helpful to determine the height of the table? A. Well actually I could get that easy enough easily enough because I know the height of the circle, and there's the floor [indicating]. |

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|--------------------|-------------------------|--|--|---|
| | 00 | 169 | | 171 |
| 12:56:47 | moment | , it's easy enough to determine. | 12:59:06 1 | I'm sorry, six feet by 20 inches? |
| • | | So when you changed | _ | A. It's shown to be 20 inches, and in the |
| • | Q. | | • | * |
| 12:56:51 | Alexander de la company | Now you mentioned before you never changed | 12:59:11 | diagram and my recollection of the length was six |
| 12:56:53 4 | | nt of the flow generator; correct? | 12:59:15 4 | feet. |
| 12:56:55 5 | | That is correct. | 12:59:16 5 | Q. Okay. What did you use to compare your |
| 12:56:56 6 | | So you raised the table, you didn't change | 12:59:23 6 | operating room table, did you have a sample operating |
| 12:56:58 7 | _ | nt of the flow generator; that's correct? | 12:59:26 7 | room table that you looked at? |
| 12:57:02 | A. | As I recall now, it was not possible to | 12:59:27 | A. I believe that we looked at material online |
| 12:57:04 | well it wa | as not possible to raise the the downflow | 12:59:30 | and images and information on operating tables to try |
| 12:57:07 10 | generato | r higher because of rafters in the building. | 12:59:35 10 | to get an impression of what was the usual case. |
| 12:57:12 11 | To lower | it didn't make any sense, it was already at | 12:59:38 11 | Q. Okay. Now why did you pick 48 inches of a |
| 12:57:15 12 | its correc | ct position. | 12:59:45 12 | height? |
| 12:57:16 13 | | And therefore when you raised the height of | 13:00:09 13 | A. I would have to go back and check. It may |
| 12:57:19 14 | | ating room table you did not raise the height | 13:00:11 14 | be that the 48-inch dimension that's shown in this |
| 12:57:21 15 | of the | ating room table you all not raise the height | 13:00:16 15 | diagram at the top of page 7 of Exhibit 7 is with the |
| | A. | No. That wasn't | | |
| 12:57:21 16 | _ | | 13:00:23 16 | table on top of concrete blocks so the distance from |
| 12:57:22 17 | Q. | flow generator. | 13:00:27 17 | the floor to the tabletop is less than 48. And this |
| 12:57:23 18 | Α. | that wasn't possible. | 13:00:31 18 | is this is a number that I could determine and |
| 12:57:24 19 | Q. | So I'm correct. | 13:00:34 19 | provide, but I don't have it with me at the moment. |
| 12:57:26 20 | Α. | You are correct. | 13:00:39 20 | We tried to get the table at the regulation |
| 12:57:27 21 | Q. | Okay. So therefore the distance between the | 13:00:43 21 | height, or something like the height of a surgical |
| 12:57:31 22 | top of th | e operating room table and the flow generator | 13:00:51 22 | table, and that may be the distance in this diagram |
| 12:57:34 23 | decrease | ed by three to four feet. | 13:00:53 23 | from the top to the wooden floorboard, but that |
| 12:57:39 24 | A. | Some distance roughly in that order. | 13:00:56 24 | already sits on top of concrete blocks that are |
| 12:57:42 25 | Q. | Well the distance you have here is five | 13:00:59 25 | several inches high. |
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| | CO | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | | 170 | | 172 |
| 12:57:46 | feet, acc | ording to your diagram, between the bottom of | 13:01:01 1 | Q. You agree with me that Well, strike that. |
| 12:57:49 2 | = | generator and the top of the table; correct? | 13:01:06 2 | So sitting here today you don't know the |
| 12:57:51 3 | | Five feet. | 13:01:08 | answer to that question; correct? |
| 4 | Q. | Okay. | 4 | A. I would have to look that up. |
| 12:57:53 4 | д . А. | Yeah. | 13:01:10 4 13:01:12 5 | Q. Where would you have to look it up? |
| • | | | • | |
| 12:57:54 | | So would it be fair to say that when you | 13:01:13 6 | A. I'd go look at the actual table. |
| 12:57:56 | | e table by three to four feet, you | 13:01:15 7 | Q. So that still exists. |
| 12:58:02 | _ | ntly decreased the distance between the flow | 13:01:17 | A. Oh yes. |
| 12:58:05 | _ | or and the top of the table? | 13:01:18 | Q. Okay. The setup still exists. |
| 12:58:08 10 | | It would be. But let me point out that the | 13:01:19 10 | A. Well it's not set up for experiments now, |
| 12:58:10 11 | , | e in which that was done ended up being | 13:01:23 11 | but the equipment still exists. |
| 12:58:14 12 | removed | anyhow for another reason. | 13:01:23 12 | Q. Can the schlieren mirror move up and down? |
| 12:58:16 13 | Q. | And you the reason why you removed it is | 13:01:27 13 | A. Oh no. |
| 12:58:18 14 | because | the testing for that part was not reliable. | 13:01:27 14 | Q. It's in one position? |
| 12:58:21 15 | A. | Because there was a discrepancy between my | 13:01:28 15 | A. It's a very heavy device and we have no |
| 12:58:24 16 | | ion of the test conditions and what was | 13:01:31 16 | mechanism for translating it, and if we did this would |
| 12:58:27 17 | | in the logbook. | 13:01:35 17 | require total realignment of the optics, so it that |
| 12:58:28 18 | | And since there's a discrepancy that means | 13:01:40 18 | was the fixed position |
| 12:58:28 10 | | ts are not reliable; correct? | 13:01:40 10 | Q. Okay. |
| 12:58:30 19 | | • | 13:01:40 19 | • |
| | | In that particular case I considered the | | A of the experiment. |
| 12:58:34 21 | | uestionable, and therefore I removed them. | 13:01:42 21 | Q. Okay. Now you agree with me that the |
| 12:58:38 22 | | And "questionable" is synonymous for "not | 13:01:46 22 | distance between the flow generator and the top of the |
| 12:58:41 23 | | correct? | 13:01:53 23 | operating room table is relevant to the results. |
| 12:58:42 24 | A. | Yes. | 13:02:00 24 | A. I don't think it's very relevant. This is a |
| 12:58:42 25 | Q. | Okay. Okay. So the plywood you said was, | 13:02:04 25 | uniform downflow, and so changes in height are |
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| | | 173 | | | 175 |
| 13:02:09 1 | seconda | ry importance. | 13:04:14 | for today | <i>/</i> . |
| 13:02:11 2 | Q. | Okay. So you believe | 13:04:14 | 2 A. | Very good. |
| 13:02:13 3 | | It's your expert opinion today that the flow | 13:04:15 | 3 Q. | Okay. So for all So when I consider |
| 13:02:15 4 | coming | out of the flow generator is uniform. | 13:04:19 | 1 | Let's talk about Exhibit 2 from now on. For |
| 13:02:18 5 | A. | Well, within a tolerance, yes. | 13:04:20 | | esting that was done in Exhibit 2, the height |
| 13:02:21 6 | Q. | What's the tolerance? | 13:04:22 | of the flo | ow generator was constant and the height of |
| 13:02:22 7 | Α. | Plus or minus 30 percent. | 13:04:25 | _ | e was constant. |
| 13:02:24 | Q. | Thirty percent. | 13:04:26 | | This is correct. |
| 13:02:26 | Α. | Yes. | 13:04:28 | | Okay. Now then you decided to do your |
| 13:02:27 10 | Q. | Okay. And that's not what you put in | 13:04:33 10 | 3, | |
| 13:02:29 11 | | ; correct? | 13:04:35 | | We reached a point with the downflow |
| 13:02:30 12 | | What I put in Exhibit 1 unfortunately was | 13:04:37 | - | or that we felt we'd more work on it was not |
| 13:02:32 13 | | a goal than a final result, and that's why it | 13:04:42 | | yield a lot of improvement and it was time to |
| 13:02:35 14 | | e corrected. | 13:04:44 14 | | |
| 13:02:37 15 | | Well are we doing goals here or are we doing | 13:04:45 | | Okay. And we'll talk about that when we put |
| 13:02:40 16 | testing r | | 13:04:47 | | ow generator, I think that's going to be a |
| 13:02:42 17 | A. | Let me clarify what I just said. In Exhibit | 13:04:50 17 | • | e in this case. |
| 13:02:42 18 | | Mileson In Field 1914 42 | 13:04:51 18 | | The For the testing, once you got the |
| 13:02:47 19 | | Where's Exhibit 1? | 13:04:57 | _ | eration to what you the best of your |
| 13:02:53 20 | الم | So when I wrote this [Exhibit 1] late May | 13:04:59 20 | | orrect, you decided to do testing with the |
| 13:03:00 21 | _ | ram says 38 per minute feet per minute plus | 13:05:02 21 | | and the flow off for different scenarios; |
| 13:03:04 22 | | s 10 percent, and when I revisited the report I | | _ | That is someon |
| 13:03:11 23 | | yself was it really plus or minus 10 percent, | 13:05:05 23 | _ | That is correct. |
| 13:03:14 24 13:03:17 25 | | rns out it wasn't that good. | 13:05:05 24 | | You did the candle with it on and off; |
| 13:03:17 23 | Q. | And you would agree with me that the airflow STIREWALT & ASSOCIATES | 13:05:07 | correct? | STIREWALT & ASSOCIATES |
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| | | 174 | | 00 | 176 |
| 13:03:20 1 | coming | out of the flow generator is not uniform. | 13:05:08 | ı A. | Yes. |
| 13:03:23 2 | A. | That's correct. | 13:05:09 | 2 Q. | Okay. And you took pictures and videos; |
| 13:03:24 3 | Q. | There's actually four sections of the flow | 13:05:12 | 3 correct? | |
| 13:03:26 4 | generato | or; correct? | 13:05:13 | 4 A. | For every scenario there were, generally |
| 13:03:28 5 | A. | No. In this case | 13:05:16 | speaking | , two still images and one, sometimes two, |
| 13:03:30 6 | | All right. I think you have a | 13:05:21 | video clip | ps. |
| 13:03:33 7 | misimpr | ession. The four sections that are shown in | 13:05:22 | 7 Q. | Okay. And in fact if you go to page 5, you |
| 13:03:37 | Q. | Let's go to page | 13:05:31 | - | d pictures from the range of 40 to 329, whether |
| 13:03:39 | A. | Yeah, page 9. [Exhibit 7.] | 13:05:37 | or not th | ey're videos or |
| 13:03:40 10 | Q. | Uh-huh. | 13:05:38 10 |) A. | I'm sorry. Page 5 of which? |
| 13:03:41 11 | | are we just divided this up into | 13:05:40 11 | | |
| 13:03:44 12 | | n order to take measurements in four | 13:05:42 | | Now I was looking at the logbook. You're |
| 13:03:47 13 | - | ts, but in fact there aren't any dividers or | 13:05:44 | _ | page 5 |
| 13:03:50 14 | , | as there are in the ceiling of an actual | 13:05:44 14 | _ | Yes. Yes. |
| 13:03:52 15 | operatin | _ | 13:05:46 | _ | of the report. |
| 13:03:54 16 | | Okay. But you have different flow rates out | 13:05:47 | | Yes. Of your report. |
| 13:03:55 17 | | section; correct? | 13:05:48 17 | | All right. So could you repeat your |
| 13:03:58 18 | A. | There | 13:05:49 18 | - | , please? |
| 13:03:58 19 | vas Els | Depending on the measurements, there wa | 13:05:50 | | On page 5 of your report if you look at |
| 13:04:00 20 | - | re was differences in those flow rates. | 13:05:54 20 | _ | es up from the bottom |
| 13:04:03 21 13:04:04 22 | | And we'll get that we'll get to that in a | 13:05:56 21 | | Yes. |
| 12:04:04 | second. | Co. Co the flow serverter is a constant | 13:05:56 22 | | it says, still clips and videos were |
| | | So So the flow generator is a constant | 13:06:00 23 | | n not going to I'm paraphrasing but DSC |
| 13:04:05 23 | haial-t - | voont for the one testing that weller admitted | | follo | by the numbers of the renes of 10 to 200. |
| 13:04:05 23 13:04:09 24 | _ | except for the one testing that you've admitted | 13:06:03 24 | | by the numbers of the range of 40 to 329; |
| 13:04:05 23 | _ | ot reliable so we're just going to scrap that | 13:06:03 24 | | |
| 13:04:05 23 13:04:09 24 | that's no | | | correct? | by the numbers of the range of 40 to 329; STIREWALT & ASSOCIATES -800-553-1953 info@stirewalt.com |

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| _ | A Thatta take | _ | 179 |
| 13:06:07 | A. That's right. | 13:07:40 | MR. ASSAAD: So you don't represent him |
| 13:06:07 2 | Q. So basically there are approximately 289 images, whether or not they're video or or | 13:07:42 2 13:07:44 3 | today as an attorney. You're not his attorney today. MR. GOSS: He relied on us to handle the |
| 13:06:13 3 | A. Two hundred and forty-nine | | |
| 13:06:16 4 13:06:18 5 | Q still or video. | 13:07:46 4 13:07:46 5 | subpoena. BY MR. ASSAAD: |
| 13:06:19 6 | A. Still or video. | 13:07:46 | Q. You understand you're under subpoena; |
| 13:06:19 7 | Q. Okay. Did you produce those all to your | 13:07:47 7 | correct? |
| 13:06:23 | counsel? | 13:07:48 | A. Yes, sir. |
| 13:06:24 | A. Yes. | 13:07:49 | Q. Is he representing you in this case? |
| 13:06:24 10 | Q. Okay. And it was in response to the | 13:07:50 10 | MR. GOSS: With respect to the subpoena, |
| 13:06:26 11 | subpoena; correct? | 13:07:51 11 | yes. |
| 13:06:27 12 | A. Correct. | 13:07:52 12 | Q. You understand a subpoena is equivalent to a |
| 13:06:27 13 | Q. Okay. Are you aware that counsel has not | 13:07:54 13 | court order. |
| 13:06:29 14 | produced all those videos or pictures to me? | 13:07:54 14 | A. Yes. |
| 13:06:31 15 | A. I am. | 13:07:56 15 | Q. Okay. And you complied with it; correct? |
| 13:06:32 16 | Q. Okay. What was your understanding why that | 13:07:57 16 | A. To the best of my ability I did. |
| 13:06:34 17 | was not produced? | 13:07:58 17 | Q. And it was your |
| 13:06:38 18 | MR. GOSS: Calls for speculation. You | 13:07:59 18 | And it was 3M's attorneys' determination not |
| 13:06:39 19 | don't have to provide any answer on that that we | 13:08:01 19 | to produce them to to counsel in this case; |
| 13:06:47 20 | didn't discuss. | 13:08:05 20 | correct? |
| 13:06:48 21 | Q. What was your understanding that these | 13:08:05 21 | MR. GOSS: Calls for speculation, lack of |
| 13:06:49 22 | weren't produced? | 13:08:07 22 | foundation. |
| 13:06:52 23 | A. I don't have an understanding. | 13:08:07 23 | A. I don't know what happened after I produced |
| 13:06:53 24 | Q. Okay. Is there | 13:08:10 24 | the materials. |
| 13:06:55 25 | Are you afraid of what these pictures show? | 13:08:10 25 | Q. It wasn't your decision not to produce these |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 178 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 180 |
| 13:06:57 1 | 178 | 13:08:12 1 | 180 |
| 13:06:57 1 13:06:58 2 | 178 | 13:08:12 1 13:08:13 2 | |
| | 178 A. Certainly not. | _ | 180 today to us; correct? |
| 13:06:58 2 | A. Certainly not. MR. GOSS: Object to form. | 13:08:13 2 | today to us; correct? A. It was not my decision. |
| 13:06:58 2 13:06:59 3 | A. Certainly not. MR. GOSS: Object to form. Q. Okay. So why weren't they produced? | 13:08:13 2 13:08:15 3 | today to us; correct? A. It was not my decision. Q. Okay. And I take it, as a scientist, you |
| 13:06:58 2 13:06:59 3 13:07:01 4 | A. Certainly not. MR. GOSS: Object to form. Q. Okay. So why weren't they produced? MR. GOSS: Object to form. | 13:08:13 2 13:08:15 3 13:08:24 4 | today to us; correct? A. It was not my decision. Q. Okay. And I take it, as a scientist, you are not afraid of the information or you don't want to |
| 13:06:58 2 13:06:59 3 13:07:01 4 13:07:03 5 | A. Certainly not. MR. GOSS: Object to form. Q. Okay. So why weren't they produced? MR. GOSS: Object to form. A. All right. MR. GOSS: They were provided to counsel. If not all of them were received, you can let me know | 13:08:13 2 13:08:15 3 13:08:24 4 13:08:27 5 | today to us; correct? A. It was not my decision. Q. Okay. And I take it, as a scientist, you are not afraid of the information or you don't want to hold back information in any type of testing you did; correct? A. I certainly do not. |
| 13:06:58 2 13:06:59 3 13:07:01 4 13:07:03 5 13:07:04 6 13:07:06 7 13:07:08 8 | A. Certainly not. MR. GOSS: Object to form. Q. Okay. So why weren't they produced? MR. GOSS: Object to form. A. All right. MR. GOSS: They were provided to counsel. If not all of them were received, you can let me know and we'll review it. | 13:08:13 2 13:08:15 3 13:08:24 4 13:08:27 5 13:08:28 6 | today to us; correct? A. It was not my decision. Q. Okay. And I take it, as a scientist, you are not afraid of the information or you don't want to hold back information in any type of testing you did; correct? A. I certainly do not. Q. Okay. But today we can't talk about those |
| 13:06:58 | A. Certainly not. MR. GOSS: Object to form. Q. Okay. So why weren't they produced? MR. GOSS: Object to form. A. All right. MR. GOSS: They were provided to counsel. If not all of them were received, you can let me know and we'll review it. MR. ASSAAD: Well you know they weren't | 13:08:13 2 13:08:15 3 13:08:24 4 13:08:27 5 13:08:28 6 13:08:29 7 13:08:30 8 13:08:32 9 | today to us; correct? A. It was not my decision. Q. Okay. And I take it, as a scientist, you are not afraid of the information or you don't want to hold back information in any type of testing you did; correct? A. I certainly do not. Q. Okay. But today we can't talk about those pictures and images because they were not produced to |
| 13:06:58 | A. Certainly not. MR. GOSS: Object to form. Q. Okay. So why weren't they produced? MR. GOSS: Object to form. A. All right. MR. GOSS: They were provided to counsel. If not all of them were received, you can let me know and we'll review it. MR. ASSAAD: Well you know they weren't received, counselor, and you intentionally did not | 13:08:13 2 13:08:15 3 13:08:24 4 13:08:27 5 13:08:28 6 13:08:29 7 13:08:30 8 13:08:32 9 13:08:34 10 | today to us; correct? A. It was not my decision. Q. Okay. And I take it, as a scientist, you are not afraid of the information or you don't want to hold back information in any type of testing you did; correct? A. I certainly do not. Q. Okay. But today we can't talk about those pictures and images because they were not produced to us. You understand that; correct? |
| 13:06:58 | A. Certainly not. MR. GOSS: Object to form. Q. Okay. So why weren't they produced? MR. GOSS: Object to form. A. All right. MR. GOSS: They were provided to counsel. If not all of them were received, you can let me know and we'll review it. MR. ASSAAD: Well you know they weren't received, counselor, and you intentionally did not produce them even after the letter by Ms. Zimmerman | 13:08:13 2 13:08:15 3 13:08:24 4 13:08:27 5 13:08:28 6 13:08:29 7 13:08:30 8 13:08:32 9 13:08:34 10 13:08:35 11 | today to us; correct? A. It was not my decision. Q. Okay. And I take it, as a scientist, you are not afraid of the information or you don't want to hold back information in any type of testing you did; correct? A. I certainly do not. Q. Okay. But today we can't talk about those pictures and images because they were not produced to us. You understand that; correct? MR. GOSS: Objection to form. |
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| | CASE 0:15-md-02666-JNF-DTS Doc | . 823-8 | Filed 09/12/17 Page 48 of 90 |
|---|--|--|--|
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 020 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 181 | _ | 183 |
| 13:09:30 | A. I don't know what you have, sir. | 13:11:29 | issued by Miss Zimmerman a couple days ago requesting |
| 13:09:31 2 13:09:33 3 | Q. Well you said you were aware that not all the pictures and videos were produced; correct? | 13:11:33 2 13:11:36 3 | that all documents relevant to the subpoena are being |
| 13:09:33 3 13:09:35 4 | A. All I know is I surrendered | 13:11:36 3 13:11:40 4 | produced, that these pictures are quite obviously relevant to your to the testing that has been |
| 13:09:38 5 | Q. Do you want me to go back to your testimony, | 13:11:42 5 | performed, except for that one picture of Peter Goss |
| 13:09:39 6 | sir? | 13:11:45 | which personally I really don't want to see. |
| 13:09:39 7 | MR. GOSS: Let's Can we move on from | 13:11:47 7 | MR. GOSS: I think it was also produced, |
| 13:09:39 | this? | 13:11:49 | so. |
| 13:09:39 | Q. Do you want me to go back to your testimony? | 13:11:50 | MR. ASSAAD: Well So I'm going to hold |
| 13:09:41 10 | MR. GOSS: We'll stipulate that you don't | 13:11:52 10 | this deposition open and I hope I just want to |
| 13:09:43 11 | have 289 pictures. I don't know what happened. | 13:11:56 11 | make you aware that counsel's inappropriate decision |
| 13:09:45 12 | My understanding in general is that there | 13:11:58 12 | not to produce relevant documents pursuant to a court |
| 13:09:47 13 | were some that were attorney work product, and some | 13:12:02 13 | order that has no claim to any type of privilege is |
| 13:09:49 14 | that were duplicates. You can take it up with me, | 13:12:07 14 | quite surprising and and therefore we will be |
| 13:09:52 15 | and if there's a problem, we'll address it. | 13:12:15 15 | asked that you're going to have to come again to |
| 13:09:54 16 | He's already said he doesn't know. He | 13:12:17 16 | discuss those pictures at a later day. |
| 13:09:56 17 | relied on He provided us the pictures, and | 13:12:19 17 | MR. GOSS: You don't have to respond to |
| 13:10:00 18 | whatever happened after that is up to counsel. | 13:12:20 18 | that, and I disagree on the record with some of the |
| 13:10:03 19 | Q. You provided all the pictures that are | 13:12:23 19 | characterizations, but I don't need to get in the way |
| 13:10:05 20 | claimed in this report; correct? Numbers 40 to 329; | 13:12:26 20 | of this deposition continuing. |
| 13:10:09 21 | correct? | 13:12:28 21 | MR. ASSAAD: Okay. All right. |
| 13:10:09 22 | A. Some of those numbers had probably been | 13:12:29 22 | BY MR. ASSAAD: |
| 13:10:12 23 | deleted because they were simply blank or whatever, | 13:12:29 23 | Q. So with all the testing and from now on |
| 13:10:15 24 | but every I presented I presented, upon | 13:12:39 24 | when I talk about testing we're excluding the |
| 13:10:18 25 | subpoena, everything I had. STIREWALT & ASSOCIATES | 13:12:41 25 | unreliable tests that you decided to omit from Exhibit STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | 1-000-000-1000 iiilo@stiicwait.com | | 1-000-000-1000 iiilo@stiicwatt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 182 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 184 |
| 13:10:19 1 | 182 | 13:12:47 1 | 184 |
| 13:10:19 1 13:10:24 2 | 182 | 13:12:47 1 13:12:50 2 | |
| | 182 Q. Okay. Any of the pictures you've taken, did | 13:12:50 2 | 184 2 you performed numerous tests with the Bair |
| 13:10:24 2 | Q. Okay. Any of the pictures you've taken, did they involve 3M being involved? | 13:12:50 2 | 184 2 you performed numerous tests with the Bair Hugger with the blower on the flow generator on |
| 13:10:24 2 13:10:27 3 | Q. Okay. Any of the pictures you've taken, did they involve 3M being involved? A. The one picture of Peter Goss on top of the | 13:12:50 2 13:12:53 3 | 184 2 you performed numerous tests with the Bair Hugger with the blower on the flow generator on and the flow generator off; correct? |
| 13:10:24 2 13:10:27 3 13:10:32 4 | Q. Okay. Any of the pictures you've taken, did they involve 3M being involved? A. The one picture of Peter Goss on top of the surgical table was the only involvement, and that's | 13:12:50 2 13:12:53 3 13:12:56 4 | 184 2 you performed numerous tests with the Bair Hugger with the blower on the flow generator on and the flow generator off; correct? A. That's right. |
| 13:10:24 2 13:10:27 3 13:10:32 4 13:10:35 5 | Q. Okay. Any of the pictures you've taken, did they involve 3M being involved? A. The one picture of Peter Goss on top of the surgical table was the only involvement, and that's not 3M, that's 3M's legal team. Q. Okay. Well when I say "3M" I'm talking about I mean their legal team. | 13:12:50 2 13:12:53 3 13:12:56 4 13:12:57 5 | 184 2 you performed numerous tests with the Bair Hugger with the blower on the flow generator on and the flow generator off; correct? A. That's right. Q. Okay. And you also did tests with the Bair |
| 13:10:24 2 13:10:27 3 13:10:32 4 13:10:35 5 13:10:37 6 | Q. Okay. Any of the pictures you've taken, did they involve 3M being involved? A. The one picture of Peter Goss on top of the surgical table was the only involvement, and that's not 3M, that's 3M's legal team. Q. Okay. Well when I say "3M" I'm talking about I mean their legal team. A. All right. | 13:12:50 2 13:12:53 3 13:12:56 4 13:12:57 5 13:12:59 6 | 2 you performed numerous tests with the Bair Hugger with the blower on the flow generator on and the flow generator off; correct? A. That's right. Q. Okay. And you also did tests with the Bair Hugger on and the Bair Hugger off; correct? A. Correct. Q. Okay. Now what was your methodology with |
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| | CASE 0:15-md-02666-JNE-DTS Doc. | 823-8 | Filed 09/12/17 Page 49 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
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| | 185 | | 187 |
| 13:13:54 | A. Yes. | 13:15:52 | A. Yes. |
| 13:13:55 2 | Q. Okay? Let's go to image number 7, okay? | 13:15:52 2 | Q. And how did you put the Bair Hugger blanket |
| 13:13:57 3 | A. Figure 7. | 13:15:57 3 | on top? Who did that, was that you or somebody else? |
| 13:13:58 4 | Q. Figure 7. | 13:16:00 4 | A. All right. The Bair Hugger and the HotDog |
| 13:13:59 5 | Figure 4, I'm sorry, page 7. Figure 4, page | 13:16:03 5 | blankets were applied by my members of my group, |
| 13:14:02 6 | 7. Okay. | 13:16:10 6 | Lori and J. D. according to what they had learned from |
| 13:14:04 7 | A. Figure 4, page 7. | 13:16:13 7 | watching video of 3M and the their experience, and |
| 13:14:05 | Q. Okay. Obviously figure A is a candle that | 13:16:18 | that was their job to put the blankets while I was |
| 13:14:09 | the flow generator is off; correct? | 13:16:21 9 | doing the photography. |
| 13:14:11 10 | A. Correct. | 13:16:21 10 | Q. Okay. |
| 13:14:12 11 | Q. And then you turn the flow generator on; | 13:16:24 11 | A. I checked to make sure that I was satisfied |
| 13:14:14 12 | correct? | 13:16:26 12 | with what they did. |
| 13:14:15 13 | A. In Figure 4 b, that is right. | 13:16:27 13 | Q. Okay. Now the Bair Hugger blanket 522, did |
| 13:14:19 14 | Q . Yes. | 13:16:31 14 | it have arm ties? |
| 13:14:19 15 | How long do you wait for it to become to | 13:16:32 15 | A. Yes. |
| 13:14:22 16 | some sort of equilibrium or to see what happens with | 13:16:32 16 | Q. Were they attached? |
| 13:14:26 17 | respect to the effect of the thermal plume of a candle | 13:16:33 17 | A. They were. |
| 13:14:29 18 | before you take pictures? | 13:16:34 18 | Q. Okay. Did it have tape? |
| 13:14:31 19 | A. In the candle case the change in the | 13:16:35 19 | A. It did. |
| 13:14:35 20 | appearance of the candle that you see in these stills | 13:16:36 20 | Q. And was it attached? |
| 13:14:39 21 | was almost immediate. The videos that I cited you | 13:16:37 21 | A. It was. |
| 13:14:44 22 | will show that. | 13:16:37 22 | Q. Okay. And how well does the tape seal to a |
| 13:14:49 23 | Q. Now let's take, for example, picture number | 13:16:45 23 | foam mannequin? If you know. |
| 13:14:55 24 | Figure number 10, page 12. Okay. | 13:16:52 24 | A. It From my observation of it it was a |
| 13:15:00 25 | A. All right. | 13:16:57 25 | good seal. |
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| 13:15:01 | Q. These are with the flow generator on; | 13:16:57 | Q. When did you observe it? |
| 13:15:05 2 | correct? | 13:16:59 2 | A. During these tests. |
| 13:15:06 | A. That is correct. | 13:17:03 | Q. Okay. At what day? |
| 13:15:07 | Q. Okay. And that's the HotDog and in | 13:17:06 4 | A. Well we could determine what day because, |
| 13:15:12 5 | Figure b and the Bair Hugger in figure a; correct? | 13:17:09 5 | for example [clearing throat] excuse me for |
| 13:15:14 | A. That is correct. | 13:17:13 6 | example, if we're talking about Figure 10, there are |
| 13:15:15 7 | Q. And the Bair Hugger's covered with a | 13:17:19 7 | videos cited, 171 and 181, and in the logbook you have |
| 13:15:16 | blanket; correct? | 13:17:24 | a log of all the video numbers. So in that particular |
| 13:15:17 9 | A. A Bair Hugger was covered with a cotton | 13:17:29 | case 171 and 181 would have been on would have been |
| 13:15:20 10 | blanket and then the plastic drape. | 13:17:43 10 | on May 11th of this year. |
| 13:15:22 11 | Q. Okay. I don't see the plastic drape here, I | 13:17:45 11 | Q. Okay. Was May 11th the only time you tested |
| 13:15:25 12 | just see a blanket. | 13:17:48 12 | the Bair Hugger blanket over |
| 13:15:26 13 | A. Well you're looking at the plastic drape but | 13:17:48 13 | A. No. |
| 13:15:28 14 | it doesn't look like it because it's pink in one case | 13:17:55 14 | Q on a mannequin? |
| 13:15:31 15 | and kind of grayish in the other, but it is a plastic | 13:17:57 15 | A. No. |
| 13:15:35 16 | drape over top the top of the cotton blanket. | 13:17:58 16 | Q. Okay. What other days? |
| 13:15:37 17 | Q. Okay. So let's step back a little bit | 13:17:59 17 | A. All right. So let's |
| 13:15:40 18 | before we get to this question. | 13:18:00 18 | Then we can go back to, for example, Figure |
| 13:15:41 19 | So you place the mannequin on the table; | 13:18:12 19 | 7, and the video numbers here are 178 and 176, and I |
| 13:15:44 20 | correct? | 13:18:18 20 | consult the logbook and those were well actually |
| 13:15:44 21 | A. Yes. | 13:18:21 21 | those were also May 11th. |
| 13:15:45 22 | Q. Is that correct? | 13:18:23 22 | Q. Okay. But Figure 7 is you're not really |
| 13:15:46 23 | A. That's right. | 13:18:26 23 | testing the blanket, you're testing just the blower. |
| 13:15:47 24 | Q. Okay. And then you cover it you put the | 13:18:29 24 | A. That's right. It's an illustration. |
| 13:15:49 25 | Bair Hugger blanket on top of it; correct? | 13:18:31 25 | Q. So was May 11th the only day that the Bair |
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| | 189 | | 191 |
| 13:18:34 | Hugger was actually attached to a mannequin and tested | 13:21:57 | exit jets? |
| 13:18:38 2 | to see the effects on the airflow? | 13:21:59 2 | A. That's not May 14th, sir, that is May 15th. |
| 13:18:43 | A. I can answer that question, but I will have | 13:22:07 | Q. Well if you go to page 17 of Exhibit 7 it |
| 13:18:46 4 | to check these numbers against the logbook to do so. | 13:22:12 4 | says May 14th, 2017 GSS, which I assume is you, set up |
| 13:18:54 5 | You want me to do that? | 13:22:16 5 | four and a half schlieren for close-ups of Bair Hugger |
| 13:19:01 6 | Q. Well let me rephrase it, then. | 13:22:19 6 | exit iets. |
| 13:19:03 7 | The only data that you provided in your | 13:22:23 7 | Do you see that, sir? |
| 13:19:05 | report with respect to the Bair Hugger's effect on | 13:22:25 | A. Just a moment. (Witness reviewing exhibit.) |
| 13:19:09 | airflow are images in Figure 10, correct? Using | 13:22:36 | All right. You are right. On May 14th the |
| 13:19:09 3 | schlieren testing. | 13:22:40 10 | four-and-a-half inch schlieren system was set up for |
| 13:19:23 | A. Figure 10 and 11. | 13:22:40 10 | close-ups of the Bair Hugger exit jets, flow rate, so |
| 13:19:24 11 | Q. Figures 10 and 11. Okay. | 13:22:43 11 | forth, and |
| 13:19:28 13 | A. And that's 280. So 280 | 13:22:49 12 | MR. GOSS: So wait for him to ask I |
| 13:19:28 13 | | 13:22:51 13 | |
| | Give me just a moment. 280 was somewhat | | think he just asked you if that was correct. |
| 13:19:37 15 | later. I believe that's May 15th. So at least on May | 13:22:55 15 | A. That's correct. |
| 13:19:46 16 | 11th and May 15th these tests were done. | 13:22:55 16 | Q. Okay. And did you use the same blanket or a |
| 13:19:49 17 | Q. And your testimony today is that you are | 13:22:58 17 | different blanket with respect to the close-ups? |
| 13:19:51 18 | confident that you tested | 13:23:00 18 | A. That was a different brand new blanket out |
| 13:19:53 19 | Well let me ask you this: Between May 11th | 13:23:03 19 | of its package. |
| 13:19:57 20 | and May 15th did you disassemble the drape from the | 13:23:04 20 | Q. Okay. So would it be fair to say that |
| 13:20:04 21 | mannequin during that time period? | 13:23:09 21 | between May 11th and May 15th it was most probable |
| 13:20:14 22 | A. I would have to | 13:23:16 22 | that you did not disassemble the setup of the Bair |
| 13:20:18 23 | I cannot give you a good answer there. I | 13:23:20 23 | Hugger blanket on the mannequin? |
| 13:20:20 24 | would have to consult my colleagues on that. It may | 13:23:22 24 | A. It's a guess, and I'm not supposed to guess, |
| 13:20:26 25 | have remained in position the end of the May 11th test | 13:23:24 25 | but I could determine that. I could find out that |
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| 13:20:31 | until we tested again on the 15th, but I would be | 13:23:27 | information. |
| 13:20:34 2 | guessing if I said that. | 13:23:27 2 | Q. Well unfortunately this is my one time to |
| 13:20:53 | Q. On May 14th you did close-ups of the Bair | 13:23:29 | take your deposition. |
| 13:20:58 | Hugger exit jets, which is page 17 of your notes, | 13:23:30 4 | A. I I understand that. |
| 13:21:02 5 | Exhibit 3? | 13:23:30 5 | Q. Okay. So sitting here today you don't know |
| 13:21:02 6 | Is that Exhibit | 13:23:33 6 | one way or the other. |
| 13:21:06 7 | Is that Exhibit 3; am I correct? | 13:23:33 7 | A. I don't know for sure. |
| 13:21:09 | A. Exhibit 7. | 13:23:35 | Q. And sitting here today you don't know one |
| 13:21:09 | Q. Exhibit 7. I'm sorry. | 13:23:37 | way or another, like, how many times you checked the |
| 13:21:12 10 | A. Page 17. And figure | 13:23:40 10 | tape seal to the mannequin. |
| 13:21:15 11 | Q. I don't need you to look at the figure. | 13:23:42 11 | A. Well on occasions when it was removed and |
| 13:21:19 12 | My question is: When you did those Bair | 13:23:45 12 | put back, for example, the Bair Hugger was blanket |
| 13:21:21 13 | Hugger exit jets did you use a different Bair Hugger | 13:23:50 13 | was removed and the HotDog blanket was used, then the |
| 13:21:24 14 | blanket, or did you or did you use the same setup | 13:23:55 14 | tape seal would have been and the ties would have |
| 13:21:27 15 | as in Figures 10? | 13:23:58 15 | been restored and checked. |
| 13:21:34 16 | A. I'm sorry. I have to All right. So | 13:23:59 16 | Q. And how many blankets did you say you had; |
| 13:21:36 17 | we're looking at Figure 7. | 13:24:02 17 | less than five? |
| 13:21:42 18 | Q. Let me withdraw that question. | 13:24:04 18 | A. I can I can only say several. I don't |
| 13:21:43 19 | My understanding is you used a different | 13:24:05 19 | have an exact count. |
| 13:21:46 20 | schlieren mirror for the close-up; correct? | 13:24:07 20 | Q. Okay. Is there an inventory of what you |
| 13:21:48 21 | A. Oh, the close-up. | 13:24:09 21 | received from 3M? |
| 13:21:49 22 | Q. Yes. | 13:24:14 22 | A. Not in writing, but I could produce that |
| I | A. I'm sorry. | 13:24:16 23 | information. |
| 13:21:49 23 | 7.1. 1111 3011 71 | Ī | |
| 13:21:49 23 13:21:50 24 | Q. Isn't that what you did on May 14th? You | 13:24:21 24 | Q. Why were you testing HotDog again? |
| | • | 13:24:21 24 13:24:24 25 | Q. Why were you testing HotDog again?A. Comparison. |
| 13:21:50 24 | Q. Isn't that what you did on May 14th? You | | |
| 13:21:50 24 | Q. Isn't that what you did on May 14th? You looked at the the exit jets, the close-ups of the | | A. Comparison. |

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| | 193 | | 195 |
| 13:24:25 | Q. Comparison. Why not the other | 13:26:20 1 | A. I'd measure it. |
| 13:24:29 2 | patient-warming devices? | 13:26:21 2 | Q. If you went back to the |
| 13:24:30 3 | A. Within the scope of what we could do with | 13:26:23 | A. Umm-hmm. |
| 13:24:33 4 | the available time I felt that we could only do two | 13:26:23 4 | Q. to the to your |
| 13:24:41 5 | cases for comparison, a force a forced blanket and | 13:26:24 5 | A. Yes. |
| 13:24:45 6 | a conduction blanket, and I I actually was not | 13:26:25 6 | Q. Okay. But we can't do that today, can we? |
| 13:24:51 7 | aware of the of other conduction blankets at that | 13:26:28 7 | A. No, we can't. |
| 13:24:53 | point. | 13:26:30 | Q. Okay. Did the drape cover the feet or not |
| 13:24:54 | Q. And just to refresh my recollection, you | 13:26:32 | cover the feet? |
| 13:24:55 10 | received the HotDog device from 3M; correct? | 13:26:32 10 | A. As shown here, it did not cover the feet. |
| 13:24:58 11 | A. I believe 3M provided the device, yes. | 13:26:34 11 | ${f Q}_{f c}$ Okay. Did the drape cover the Bair Hugger |
| 13:25:03 12 | Q. All right. So So you guys placed the | 13:26:36 12 | blanket? |
| 13:25:12 13 | blanket, the Bair Hugger blanket over the patient | 13:26:36 13 | A. It did, although this diagram doesn't |
| 13:25:15 14 | A. The mannequin, yes. | 13:26:39 14 | exactly make that clear. |
| 13:25:17 15 | Q. The mannequin. | 13:26:42 15 | Q. Did it cover the hands or not cover the |
| 13:25:17 16 | And you taped it; correct? | 13:26:42 16 | hands? |
| 13:25:19 17 | A. We taped it. | 13:26:46 17 | A. If you will look at the next figure, then |
| 13:25:20 18 | Q. Okay. Then you put a cotton blanket; | 13:26:48 18 | I've shown it covering the hands. |
| 13:25:23 19 | correct? | 13:26:50 19 | Q. Oh, I can't tell if that's the drape or the |
| 13:25:23 20 | A. Correct.Q. Was that cotton blanket provided to you by | 13:26:52 20 13:26:53 21 | Bair Hugger blanket. |
| 13:25:24 21 13:25:26 22 | Q. Was that cotton blanket provided to you by 3M? | 13:26:53 2 1 | A. That's the drape.Q. Okay. |
| 13:25:26 22 | A. Not sure about that. | 13:26:54 22 13:26:56 23 | A. It says "drape" on the lower left corner. |
| 13:25:31 23 | Q. Okay. Then a drape was placed over; | 13:26:56 23 | Q. Okay. Fair enough. I missed that. |
| 13:25:32 24 | correct? | 13:27:01 24 | Okay. Now before you did any testing did |
| 13:25:35 | STIREWALT & ASSOCIATES | 13:27:03 23 | STIREWALT & ASSOCIATES |
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| 13:25:35 | | 13:27:10 1 | |
| 13:25:35 1 13:25:36 2 | 194 | 13:27:10 1 13:27:13 2 | 196 |
| _ | 194 A. Yeah. | _ | 196 you submit any pictures to 3M to say, this is our test |
| 13:25:36 2 | 194 A. Yeah. Q. And | 13:27:13 2 | 196 you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical |
| 13:25:36 2 13:25:37 3 | A. Yeah. Q. And A. Correct. | 13:27:13 2 13:27:17 3 | 196 you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? |
| 13:25:36 2 13:25:37 3 13:25:38 4 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not | 13:27:13 2 13:27:17 3 13:27:18 4 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally |
| 13:25:36 2 13:25:37 3 13:25:38 4 13:25:40 5 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? | 13:27:13 2 13:27:17 3 13:27:18 4 13:27:19 5 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol |
| 13:25:36 2 13:25:37 3 13:25:38 4 13:25:40 5 13:25:40 6 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. | 13:27:13 2 13:27:17 3 13:27:18 4 13:27:19 5 13:27:21 6 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally |
| 13:25:36 2 13:25:37 3 13:25:38 4 13:25:40 5 13:25:40 6 13:25:41 7 13:25:43 8 13:25:43 9 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. | 13:27:13 2 13:27:17 3 13:27:18 4 13:27:19 5 13:27:21 6 13:27:24 7 13:27:27 8 13:27:33 9 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the |
| 13:25:36 2 13:25:37 3 13:25:38 4 13:25:40 5 13:25:40 6 13:25:41 7 13:25:43 8 13:25:43 9 13:25:45 10 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked | 13:27:13 2 13:27:17 3 13:27:18 4 13:27:19 5 13:27:21 6 13:27:24 7 13:27:27 8 13:27:33 9 13:27:36 10 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. Q. Yes. | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. A. That was our primary resource for draping, |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. Q. Yes. A. Just one moment, please. | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. A. That was our primary resource for draping, that's right. |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. Q. Yes. A. Just one moment, please. Figure 12, and for that matter 13, are | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. A. That was our primary resource for draping, that's right. Q. And there was only one drape; correct? |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. Q. Yes. A. Just one moment, please. Figure 12, and for that matter 13, are drawings that I made of the setup. They are | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. A. That was our primary resource for draping, that's right. Q. And there was only one drape; correct? A. Yes. That's right. |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. Q. Yes. A. Just one moment, please. Figure 12, and for that matter 13, are drawings that I made of the setup. They are schematic, but yes, it was set up that way. | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. A. That was our primary resource for draping, that's right. Q. And there was only one drape; correct? A. Yes. That's right. Q. Okay. Do you know how many drapes are used |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. Q. Yes. A. Just one moment, please. Figure 12, and for that matter 13, are drawings that I made of the setup. They are schematic, but yes, it was set up that way. Q. Okay. So based on the schematic the drape | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. A. That was our primary resource for draping, that's right. Q. And there was only one drape; correct? A. Yes. That's right. Q. Okay. Do you know how many drapes are used in a typical knee or hip arthroplasty? |
| 13:25:36 | A. Yeah. Q. And A. Correct. Q did the drape expose the knee or not expose the knee? A. It covered the knee. Q. It covered the knee. So it was a solid drape; correct? A. Solid drape. Q. And was it set up similar to what's marked in Figure 12? A. Figure 12 of my report. Q. Yes. A. Just one moment, please. Figure 12, and for that matter 13, are drawings that I made of the setup. They are schematic, but yes, it was set up that way. Q. Okay. So based on the schematic the drape doesn't go down to the floor; correct? | 13:27:13 | you submit any pictures to 3M to say, this is our test setup, you know, is this what occurs in a typical operating room? A. I did not. Q. Okay. You did your sol This whole diagram and setup is totally based on a video provided to you by 3M; correct? A. The video which was we found it we watched it on the internet, is just pertinent to the draping. Q. That is my point. With respect to the draping. A. That was our primary resource for draping, that's right. Q. And there was only one drape; correct? A. Yes. That's right. Q. Okay. Do you know how many drapes are used in a typical knee or hip arthroplasty? A. Well I know it's more elaborate than what we |
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| | | CC | CASE 0:15-md-02666-JNE-DTS Doc NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | . 823-8 | Filed 09/12/17 Page 52 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDE |
|---|--------|------------|--|--|--|
| | | | 197 | | 199 |
| 13:28:15 | 1 | | n, surgical hip or knee arthroplasty, whether | 13:30:08 | Q. Okay. And you would agree with me that wha |
| 13:28:18 | 2 | or not th | e drape covers the feet or not covers the | 13:30:10 2 | you did in this experiment or this testing has many |
| 3:28:20 | 3 | feet? | | 13:30:18 3 | different variables and situations as to what goes on |
| 3:28:21 | 4 | _ | In a hip arthroplasty. | 13:30:21 4 | in an operating room; correct? |
| 3:28:24 | 5 | Q. | Or knee. | 13:30:22 5 | A. Well are you are you referring to the |
| 3:28:26 | 6 | Α. | I don't know. | 13:30:24 6 | draping, or are you referring to something else? |
| 13:28:28 | 7 | Q. | Okay. | 13:30:26 7 | Q. The airflow is different, what you did here |
| 13:28:40 | 8 | | MR. GOSS: It's about 1:30, I'm getting a | 13:30:30 | than in an operating room; correct? |
| 3:28:43 | 9 | little pec | kish. | 13:30:31 | A. The downflow? |
| 3:28:44 1 | 0 | | MR. ASSAAD: Okay. Let me just finish the | 13:30:32 10 | Q. Yeah. |
| 3:28:46 1 | 1 | methodo | ology. | 13:30:33 11 | A. We did our very best to provide the same |
| 3:28:47 1 | 2 | Q. | Okay. So you do the setup here as what's in | 13:30:36 12 | face velocity on our downflow generator as what |
| 3:28:49 1 | 3 | Figure 1 | 2; correct? | 13:30:39 13 | happens in the operating room, but |
| 3:28:51 1 | 4 | A. | Figure 12. | 13:30:42 14 | Q. Your face velocity had an error of plus or |
| 3:28:52 | 5 | Q. | Okay. And is the draping the same with the | 13:30:44 15 | minus 30 percent; correct? |
| 3:28:56 | 6 | Bair w | hen you used the HotDog? | 13:30:47 16 | A. Correct. |
| 3:28:57 1 | 7 | A. | Yes. | 13:30:48 17 | Q. Are the downflow airflow in an operating |
| 3:28:58 1 | 8 | Q. | Okay. Did you use a blanket, cotton blanket | 13:30:51 18 | room have a velocity difference of plus or minus 30 |
| 3:29:01 1 | 9 | over the | HotDog? | 13:30:53 19 | percent? |
| 3:29:03 2 | 0 | A. | Yes. | 13:30:54 20 | A. More than that. |
| 3:29:05 2 | 1 | Q. | Because I don't see a blanket over the | 13:30:55 21 | Q. You think so? |
| 3:29:06 2 | | HotDog | n Figure Number 10. | 13:30:55 22 | A. Look at the boundary conditions stated by |
| 3:29:09 2 | 3 | _ | One moment. I'll take (Witness | 13:30:57 23 | Professor Elghobashi, and which I think he got from |
| 3:29:09 2 | | | g exhibit.) | 13:31:01 24 | reasonably from louvered ceiling diffusers in an |
| 3:29:16 2 | | | Well, and actually I don't think you see it | 13:31:06 25 | operating room, and you will see that there are |
| 0.20.10 | | | STIREWALT & ASSOCIATES | 10.01.00 | STIREWALT & ASSOCIATES |
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| | | 00 | 198 | | 200 |
| 3:29:18 | 1 | in Fiai | ure 10 a is the Bair Hugger, and Figure 10 b | 13:31:09 | sections of filter and there are solid, I guess, |
| | 2 | _ | otDog, and the cotton blanket really isn't | 13:31:13 2 | support sections. So if you take face velocity across |
| | | | either one, but we did use a cotton blanket | | that you will go from a hundred percent downflow to |
| | 4 | in every | | 13:31:21 4 | zero, which is much more than the difference that we |
| | 5 | | Okay. | 13:31:23 5 | had. |
| | 6 | Α. | So it's there, it's just covered by the | 13:31:23 6 | Q. Do you think |
| 3:29:33 | 7 | drape. | 30 it's there, it's just covered by the | 13:31:24 7 | It's your testimony today that the airflow |
| | 8 | Q. | Do you know whether or not the instructions | 13:31:27 | along the width or the length of the ventilation vent |
| | a | | lotDog require a cotton blanket? | _ | that Elghobashi used changes, or are you talking about |
| 3:29:35 | 0 | | I don't. | 13:31:33 9 13:31:35 10 | the area where there are no vents? |
| 3:29:41 1 | | | | 13:31:35 10 | |
| 3:29:41 1 | | Q. | Okay. | | A. The area where there are no vents, the |
| 3:29:42 1 | _ | A. | But I wanted to be I wanted these to be | 13:31:39 12 | solid. |
| 3:29:44 1 | | | arable as possible. | 13:31:39 13 | Q. Okay. But we're not talking about that here |
| 3:29:46 1 | | | So you want to make things as exact as | 13:31:41 14 | because you had a solid diffuser flow generator; |
| 3:29:47 1 | | | correct? | 13:31:44 15 | correct? |
| 3:29:48 1 | | | I'm interested in the difference between the | 13:31:45 16 | A. We're talking about it |
| 3:29:51 | | | on blanket and the forced-air blanket, so I'd | 13:31:46 17 | Or I'm talking about it because if you look |
| 3:29:54 | | | eep control conditions like that as much | 13:31:48 18 | at the downflow in the real operating room vents |
| 3:29:58 | | as possil | | 13:31:51 19 | you've got a section that generates downflow and then |
| _ | | Q. | You try to | 13:31:53 20 | you've got a dead zone. So then if you measure across |
| | 1 | | You try to have as least amount of variables | 13:31:57 21 | you'll have a discrepancy, big discrepancy in velocity |
| 3:30:00 2 | _ | as possil | ple; correct? | 13:32:00 22 | every time you come to the dead zone. The flow tends |
| 3:30:00 2 3:30:02 2 | | | Least amount | 13:32:03 23 | to even out due to turbulent mixing as it comes down. |
| 3:30:00 2 3:30:02 2 3:30:03 2 | 3 | | Least amount | | - |
| 13:30:00 2 13:30:02 2 13:30:03 2 | 3 | | Least amount of variables as possible, | 13:32:07 24 | My feeling on this is that if you get the |
| 3:30:00 2 3:30:02 2 3:30:03 2 3:30:04 2 | 3 4 | Α. | | 13:32:07 24 13:32:10 25 | My feeling on this is that if you get the face velocity right, the variations plus or minus tend |
| 13:29:59 2 13:30:00 2 13:30:02 2 13:30:03 2 13:30:04 2 13:30:06 2 | 3 4 | Α. | Least amount of variables as possible, | | |

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| | 201 | | 203 |
| | | | |
| 13:32:15 1 | to come out in the wash, so to speak, in the turbulent | 13:34:06 | A. Not correct, because in the early testing |
| _ | mixing as the downflow falls. • What was the face velocity right above the | 13:34:09 2 13:34:12 3 | you will I don't know how well annotated it is, but we began by placing the anemometer approximately one |
| | Q. What was the face velocity right above the surgical site? | 4 | |
| 13:32:23 4 | A. In our experiment. | | one and a half feet I don't want to guess. I can go look this measurement up or discuss it with my |
| | Q. Yes. | | colleagues. And taking a measurement directly above |
| 70.02.20 | A. It was 38 feet per minute plus or minus our | _ | the table like so. But then I realized that the |
| | tolerance. | | pertinent measurement is the face velocity, not at any |
| 13:32:30 8 13:32:31 9 | Q. Where is that measured? | 13:34:31 8 13:34:35 9 | point directly above the mannequin. |
| 13:32:31 10 | A. That's measured at four different locations | 13:34:35 10 | Q. So let me ask you a question. Right above |
| 13:32:35 11 | below the downflow generator, | 13:34:40 11 | the knee, the surgical site in this case, you were |
| 13:32:36 12 | Q. Where? | 13:34:45 12 | pretending to be a knee surgery; correct? It was |
| 13:32:37 13 | A and averaged. | 13:34:45 13 | A. Yes. |
| 13:32:38 14 | Q. Where below the downflow? | 13:34:48 14 | Q. simulated of a knee surgery; correct? |
| 13:32:39 15 | A. You'll see this in my logbook. | 13:34:50 15 | A. Yes. |
| 13:32:41 16 | Q. Sure. What page? | 13:34:51 16 | Q. What is the face velocity right above the |
| 13:32:51 17 | A. Page 9, just below the center of the page on | 13:34:53 17 | knee? |
| 13:32:54 18 | the left. And there's no physical division here, but | 13:34:54 18 | A. "Face velocity," that term, refers to the |
| 13:32:59 19 | we divided it up into fourths in order to take | 13:34:57 19 | measurement directly underneath the |
| 13:33:01 20 | velocity readings, A, B, C and D, and then these | 13:35:00 20 | Q. Okay. I'm asking you this |
| 13:33:06 21 | readings are tabulated for tests in which we were | 13:35:01 21 | A. What is the |
| 13:33:09 22 | trying to even the flow as much as we could. | 13:35:02 22 | You're asking what is the actual velocity. |
| 13:33:12 23 | Q. There was five feet between the top of the | 13:35:03 23 | Q. What's the actual face velocity right above |
| 13:33:14 24 | table and the bottom of the flow generator; correct? | 13:35:05 24 | the knee? |
| 13:33:17 25 | A. That is according to the diagram on | 13:35:12 25 | A. I |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
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| 13:33:22 1 | | 13:35:12 1 | |
| 13:33:22 1 13:33:23 2 | 202 | 13:35:12 1 13:35:14 2 | 204 |
| _ | 202 Figure 7, is correct. | • | 204 MR. GOSS: You can answer if you understand |
| 13:33:23 2 | 202 Figure 7, is correct. Q. Okay. At what point did you did you test | 13:35:14 2 | 204 MR. GOSS: You can answer if you understand the question. If your |
| 13:33:23 2 13:33:26 3 | Figure 7, is correct. Q. Okay. At what point did you did you test the flow, the velocity underneath the flow generator | 13:35:14 2 13:35:14 3 | MR. GOSS: You can answer if you understand the question. If your MR. ASSAAD: He understands the question. |
| 13:33:23 2 13:33:26 3 13:33:30 4 | Figure 7, is correct. Q. Okay. At what point did you did you test the flow, the velocity underneath the flow generator at? A. That's face velocity, it's directly underneath the generator. | 13:35:14 2 13:35:14 3 13:35:15 4 | MR. GOSS: You can answer if you understand the question. If your MR. ASSAAD: He understands the question. MR. GOSS: terminology is different, you can explain. Q. Do you understand the question? |
| 13:33:23 2 13:33:26 3 13:33:30 4 13:33:31 5 | Figure 7, is correct. Q. Okay. At what point did you did you test the flow, the velocity underneath the flow generator at? A. That's face velocity, it's directly underneath the generator. Q. Directly underneath | 13:35:14 2 13:35:14 3 13:35:15 4 13:35:16 5 | MR. GOSS: You can answer if you understand the question. If your MR. ASSAAD: He understands the question. MR. GOSS: terminology is different, you can explain. Q. Do you understand the question? A. Well I understand the question, but I have |
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| | 205 | | 207 |
| 13:35:57 | Now we're talking a different face velocity | 13:37:55 | disagree with it. |
| 13:35:59 2 | along the entire flow generator; correct? The four | 13:37:56 2 | Q. And actually he created a a simulated |
| 13:36:04 3 | The four by five foot | 13:38:00 3 | duct going up |
| 13:36:06 4 | A. Well there were differences. | 13:38:00 4 | A. Yes. |
| 13:36:07 5 | Q. Different quadrants. Okay. | 13:38:01 5 | Q. to show |
| 13:36:09 6 | A. There were differences. | 13:38:02 6 | A. I know. |
| 13:36:10 7 | Q. And did you measure the center of each | 13:38:02 7 | Q that that needs to be calculated to get |
| 13:36:12 | quadrant? | 13:38:04 | the right face velocity; correct? |
| 13:36:12 | A. Yes. | 13:38:06 9 | MR. GOSS: Please wait for him to finish |
| 13:36:13 10 | Q. Okay. Now you agree with me that the | 13:38:07 10 | his question, then you can answer. |
| 13:36:18 11 | based on the fact that there's different face | 13:38:09 11 | Q. Correct? |
| 13:36:20 12 | velocities coming out of different quadrants, the air | 13:38:13 12 | A. He created a simulated duct. Yes. Correct. |
| 13:36:23 13 | coming out of the flow generator has a much higher | 13:38:16 13 | Q. Dr. Abraham did not do that; correct? |
| 13:36:28 14 | Reynolds number than what's probably coming out of an | 13:38:19 14 | A. I don't think so. |
| 13:36:31 15 | operating room vent. | 13:38:20 15 | Q. Okay. And would it be fair that you do not |
| 13:36:35 16 | A. I'm sorry. I don't understand that. | 13:38:51 16 | know the mass flow coming out of each quadrant; |
| 13:36:37 17 | Q. You don't know what Reynolds number is? | 13:38:51 17 | correct? |
| 13:36:39 18 | A. Of course I know what Reynolds number is | 13:38:55 18 | A. I can certainly [clearing throat] excuse |
| 13:36:41 19 | Q. Okay. | 13:38:55 19 | me. |
| 13:36:41 20 | A but I don't understand your | 13:38:57 20 | I can certainly calculate it, because I know |
| 13:36:43 21 | Much higher where? | 13:39:01 21 | the velocity. It's a constant density/constant |
| 13:36:44 22 | Q. Coming There's a Rey | 13:39:01 21 | pressure situation. |
| 13:36:46 23 | There's a velocity and a and a Reynolds | 13:39:07 23 | Q. Okay. But then you would agree with me that |
| 13:36:49 24 | number right below at the face velocity there's | 13:39:07 23 | since there's different velocities coming out of the |
| 13:36:51 25 | going to be a Reynolds number, correct, for each | 13:39:14 25 | different qua the theoretical quadrants of the flow |
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| | 206 | | 208 |
| 13:36:54 | quadrant? | 13:39:18 1 | generator, there'll be different mass flows. |
| 13:36:54 2 | A. If you know the velocity you could compute | 13:39:21 2 | A. At the face. |
| 13:36:56 3 | the Reynolds number, yes. | 13:39:22 3 | Q. Okay. And you mentioned before that at some |
| 13:36:57 4 | Q. And you know the velocity for each different | 13:39:28 4 | point it would just all mix together and be constant; |
| 13:36:59 5 | quadrant; correct? | 13:39:30 5 | correct? |
| 13:37:01 6 | A. Yes. So there there would be a variation | 13:39:32 6 | A. It certainly mixes out, and this is why in |
| 13:37:03 7 | in Reynolds number | 13:39:34 7 | the the clean in the operating room the lands |
| 13:37:03 | Q. Okay. | 13:39:41 8 | between these diffusers don't really end up having an |
| 13:37:04 | A. due to the fact that there are variations | 13:39:44 | effect when you get down to the patient level. They |
| 13:37:06 10 | in velocity. | 13:39:47 10 | don't create dead spots because turbulent mixing mixes |
| 13:37:07 11 | Q. And it's your testimony today, just so I'm | 13:39:50 11 | this out. |
| 13:37:12 12 | clear, that you believe that the air coming out of a | 13:39:51 12 | Q. You agree but all the diffusers are at a |
| 13:37:19 13 | duct and I'm not talking about the dead spots | 13:39:55 13 | constant face velocity; correct? |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | • |
| | | | |
| | | | |
| | | 13:40:05 22 | - |
| 13:37:48 23 | | 13:40:07 23 | another whether or not the face velocities for each of |
| 13:37:51 24 | is constant. | 13:40:07 24 | the |
| 13:37:53 25 | A. That was his boundary condition, and I don't | 13:40:07 25 | A. I could |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| 13:37:51 24 | A. That was his boundary condition, and I don't STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | 13:40:07 23 13:40:07 24 | Q. Okay. So you you don't know one way another whether or not the face velocities for each the A. I could STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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|---|---|---|--|--|---|
| | 00 | 209 | | 00 | 211 |
| 13:40:07 1 | Q. | each of the diffusers | 13:42:38 1 | Q. | I read your report. |
| 13:40:15 | _ | I could make | 13:42:39 | ٠ | Just answer my question, please. |
| 13:40:15 | | (Interruption by the reporter.) | 13:42:40 3 | A. | Could you repeat the question? |
| 13:40:15 | Q. | for each of the diffusers are a constant | 13:42:42 4 | Q. | Does the air |
| 13:40:15 5 | or not; c | | 13:42:43 5 | | When you close all the windows and the |
| 13:40:15 | • | I would be guessing. | 13:42:44 6 | garage. | does the air get warmer inside the warehouse? |
| 13:40:16 7 | | Okay. Now the flow generator did not | 13:42:48 7 | | We never had a situation when it was |
| 13:40:40 8 | | any cooling effect; correct? It was taking | 13:42:50 | | ally sealed like that. |
| 13:40:43 | | mperature air and just blowing it down; | 13:42:50 9 | _ | Okay. |
| 13:40:45 10 | correct? | | 13:42:51 10 | A. | We kept it ventilated to the outside. |
| 13:40:46 11 | Α. | That's correct. | 13:42:54 11 | Q. | What temperature of was the air that the |
| 13:40:46 12 | Q. | That's different than what occurs in an OR; | 13:42:57 12 | flow gen | erator was drawing from? |
| 13:40:48 13 | correct? | | 13:43:00 13 | Α. | In In general, the same temperature as |
| 13:40:53 14 | A. | I think it is different, yes. | 13:43:03 14 | the room | air that would be measured by a thermocouple |
| 13:41:04 15 | Q. | I mean the cooling effect, the cold air | 13:43:07 15 | in the ro | om. |
| 13:41:08 16 | coming i | n an OR is from the diffusers up top; correct? | 13:43:08 16 | Q. | Okay. During your testing were the windows |
| 13:41:12 17 | A. | Yes. | 13:43:11 17 | open? | |
| 13:41:12 18 | Q. | Okay. So that is another variable that is | 13:43:12 18 | Α. | There was I wouldn't say windows. |
| 13:41:19 19 | not acco | unted for in your testing; correct? | 13:43:14 19 | | There was ventilation to the outside to |
| 13:41:24 20 | A. | What is another variable? | 13:43:19 20 | maintain | to avoid pressure changes. |
| 13:41:25 21 | Q. | The difference in temperature between the | 13:43:21 21 | Q. | Let's talk about pressure. |
| 13:41:29 22 | air supp | y and the rest of the room. | 13:43:22 22 | A. | All right. |
| 13:41:42 23 | A. | I'm trying to understand your question. Is | 13:43:23 23 | Q. | Was it |
| 13:41:50 24 | | | 13:43:23 24 | | Was the area positively pressured? |
| 13:41:50 25 | Q. | Where | 13:43:24 25 | A. | No. |
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| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | | | | 00 | INTIDENTIAL - SUBJECT TO FINOTECTIVE ONDER |
| | | 210 | | _ | 212 |
| 13:41:51 | | 210 Let me rephrase it. You have this | 13:43:25 | Q. | 212 No. |
| 13:41:53 | | 210 Let me rephrase it. You have this se; correct? | 13:43:26 2 | Q. A. | No. This is |
| 13:41:53 2 13:41:53 3 | Α. | 210 Let me rephrase it. You have this se; correct? Yes. | 13:43:26 2 13:43:26 3 | Q. A. Q. | 212 No. |
| 13:41:53 | A. Q. | 210 Let me rephrase it. You have this se; correct? Yes. What's the HVAC system in the warehouse? | 13:43:26 2 13:43:26 3 13:43:28 4 | Q. A. Q. asking. | No. This is Just answer my questions. That's all I'm |
| 13:41:53 2 13:41:53 3 13:41:54 4 13:41:57 5 | A. Q. A. | Let me rephrase it. You have this se; correct? Yes. What's the HVAC system in the warehouse? There is [Clearing throat] is no HVAC | 13:43:26 2 13:43:26 3 13:43:28 4 13:43:29 5 | Q. A. Q. asking. A. | No. This is Just answer my questions. That's all I'm No. |
| 13:41:53 2 13:41:53 3 13:41:54 4 | A. Q. A. system. | Let me rephrase it. You have this se; correct? Yes. What's the HVAC system in the warehouse? There is [Clearing throat] is no HVAC It's open air. | 13:43:26 | Q. A. Q. asking. | No. This is Just answer my questions. That's all I'm No. "No." Okay. |
| 13:41:53 2 13:41:53 3 13:41:54 4 13:41:57 5 | A. Q. A. system. Q. | Let me rephrase it. You have this se; correct? Yes. What's the HVAC system in the warehouse? There is [Clearing throat] is no HVAC It's open air. It's open air? | 13:43:26 | Q. A. Q. asking. A. Q. | No. This is Just answer my questions. That's all I'm No. "No." Okay. Was the garage door open? |
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| 13:41:53 | A. Q. A. system. Q. A. and a ventilate Q. A. Q. the outs A. Q. outside t A. Q. colder? at all? | Let me rephrase it. You have this se; correct? Yes. What's the HVAC system in the warehouse? There is [Clearing throat] is no HVAC It's open air. It's open air? It's open to the outside by way of windows and a large garage door. It's not id. So it's an unventilated It's unventilated. So the temperature is is based on what ide temperature is? Similar to the outside temperature. Okay. Is it warmer or colder than the temperature? Depends on circumstances. Well with the windows closed is it warmer or With everything closed does it warm up inside. | 13.43.26 | Q. A. Q. asking. A. Q. cases the A. outside of door or b Q. variables your test A. pressuriz inside to Q. througho | No. This is Just answer my questions. That's all I'm No. "No." Okay. Was the garage door open? In some cases. Okay. So in some cases they were, in some eay weren't? I'm saying that the communication to the could be by way of a partially opened garage by windows. Was that Was that taken into account to keep the case least as possible when you were doing sing? It was generally to just avoid cation or avoid pressure differences from the outside. Okay. You didn't measure pressure out your whole testing; correct? |
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| 13:41:53 | A. Q. A. system. Q. A. and a ventilate Q. A. Q. the outs A. Q. outside t A. Q. colder? at all? A. I don't h | Let me rephrase it. You have this se; correct? Yes. What's the HVAC system in the warehouse? There is [Clearing throat] is no HVAC It's open air. It's open air? It's open to the outside by way of windows and a large garage door. It's not ed. So it's an unventilated It's unventilated. So the temperature is is based on what ide temperature is? Similar to the outside temperature. Okay. Is it warmer or colder than the temperature? Depends on circumstances. Well with the windows closed is it warmer or With everything closed does it warm up inside We measured the temperature on the inside. ave Sir, I know what you did, | 13:43:26 2 13:43:26 3 13:43:28 4 13:43:29 6 13:43:29 6 13:43:31 7 13:43:34 8 13:43:37 9 13:43:39 10 13:43:41 11 13:43:41 12 13:43:50 13 13:43:51 14 13:43:52 15 13:43:51 16 13:43:51 18 13:44:08 19 13:44:10 20 13:44:12 21 13:44:18 22 13:44:21 23 | Q. A. Q. asking. A. Q. cases the A. outside of door or b Q. variables your test A. pressuriz inside to Q. througho | No. This is Just answer my questions. That's all I'm No. "No." Okay. Was the garage door open? In some cases. Okay. So in some cases they were, in some ey weren't? I'm saying that the communication to the could be by way of a partially opened garage by windows. Was that Was that taken into account to keep the case least as possible when you were doing cing? It was generally to just avoid cation or avoid pressure differences from the outside. Okay. You didn't measure pressure out your whole testing; correct? Well the assumption is, and the pressure was a we didn't measure it, is local barometric |
| 13:41:53 | A. Q. A. system. Q. A. and a ventilate Q. A. Q. the outs A. Q. colder? at all? A. I don't h | Let me rephrase it. You have this se; correct? Yes. What's the HVAC system in the warehouse? There is [Clearing throat] is no HVAC It's open air. It's open air? It's open to the outside by way of windows and a large garage door. It's not ed. So it's an unventilated It's unventilated. So the temperature is is based on what ide temperature is? Similar to the outside temperature. Okay. Is it warmer or colder than the temperature? Depends on circumstances. Well with the windows closed is it warmer or With everything closed does it warm up inside. We measured the temperature on the inside. ave | 13:43:26 2 13:43:26 3 13:43:28 4 13:43:29 6 13:43:29 6 13:43:31 7 13:43:34 10 13:43:41 11 13:43:44 12 13:43:52 15 13:43:52 15 13:43:54 16 13:43:57 18 13:44:08 19 13:44:10 20 13:44:12 21 13:44:12 21 13:44:18 22 13:44:23 24 | Q. A. Q. asking. A. Q. cases the A. outside of door or b Q. variables your test A. pressuriz inside to Q. througho A. assumed | No. This is Just answer my questions. That's all I'm No. "No." Okay. Was the garage door open? In some cases. Okay. So in some cases they were, in some ey weren't? I'm saying that the communication to the could be by way of a partially opened garage by windows. Was that Was that taken into account to keep the case least as possible when you were doing cing? It was generally to just avoid cation or avoid pressure differences from the outside. Okay. You didn't measure pressure out your whole testing; correct? Well the assumption is, and the pressure was a we didn't measure it, is local barometric |
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|---|--|---|--|---|---|
| | 0 | 213 | | 0 | 215 |
| 13:44:26 1 13:45:00 2 | Q. | Okay. You agree with me that | 13:47:54 1 | Q. A. | Okay. But it could make a difference. I don't think so. |
| • | didn't ci | Let's be realistic. You agree with me you mulate an OR in your experiments; correct? | | Q. | And your basis behind that? |
| | | We did a simulation of the downflow | | Q. A. | |
| _ | Q. | That wasn't my question. That wasn't my | _ | Α. | We are trying to see the We're not trying to simulate a whole clean |
| • | - | | | room in | all that de or operating room in all that |
| _ | question | MR. GOSS: Wait. Let him answer. | _ | | We're trying to see the downflow and its |
| • | | MR. ASSAAD: No. I want him to answer my | | | , 5 |
| • | question | is. If you want to ask him questions, you | _ | | on locally with patient-warming blankets and annequin on top of a surgical table. It's a |
| 13:45:15 9 13:45:16 10 | can. | s. If you want to ask fillin questions, you | 13:48:16 9 13:48:22 10 | | bsection, the core of the operating room. |
| 13:45:16 | Q. | Answer my question. | 13:48:25 11 | | ng the entire operating room was not feasible. |
| 13:45:17 11 | Q. | MR. GOSS: He's going to answer your | 13:48:25 11 | | First law of thermodynamics, conservation of |
| 13:45:17 12 | question | | 13:48:33 13 | energy; | - |
| 13:45:17 14 | • | Did you simulate | 13:48:34 14 | | First law of thermodynamics is the |
| 13:45:19 15 | α. | MR. GOSS: to the best of his abilities. | 13:48:38 15 | | ation of energy principle. |
| 13:45:19 16 | 0 | an operating room in this case? | 13:48:39 16 | | And you don't disagree with that, the first |
| 13:45:24 17 | A. | Are you referring to a perfect simulation in | 13:48:40 17 | | ermodynamics. |
| 13:45:27 18 | every re | | 13:48:42 18 | _ | I'd be a fool to disagree with that. |
| 13:45:27 10 | • | To any operating room you've ever seen. | 13:48:44 19 | Q. | |
| 13:45:28 19 | Ψ. | Is there any operating room that this | 13:48:44 19 | - | ch as this, kept everything the same and we put |
| 13:45:33 21 | simulate | es; from the size, to the amount of people, to | 13:48:50 21 | | ugger in here and left it on, at some point |
| 13:45:35 22 | | ow, to the pressure, to the devices inside | 13:48:53 22 | | perature would increase; correct? |
| 13:45:42 23 | | rating room? | 13:48:57 23 | Α. | What temperature? |
| 13:45:44 24 | A. | No. | 13:49:00 24 | Q. | Room temperature. |
| 13:45:45 25 | Q. | Okay. You agree with me that all those | 13:49:02 25 | A. | Are you assuming a closed room? What |
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| | | 214 | | | 216 |
| 13:45:55 1 | variable | 4h:£4h d:d | _ | | |
| 13:45:58 2 | | s; the size of the room, as we discussed | 13:49:07 1 | about | |
| | | oressure, temperature gradient, persons, | 13:49:07 1 13:49:07 2 | about Q. | Exactly this room. |
| | before, | | _ | _ | |
| | before, affect th | pressure, temperature gradient, persons, | 13:49:07 | Q. | |
| 13:46:06 3 | before, affect the general, | oressure, temperature gradient, persons, e airflow in an operating room. In a room in | 13:49:07 2 13:49:08 3 | Q. A. Q. | the ventilation? |
| 13:46:06 3 13:46:09 4 | before, affect the general, | oressure, temperature gradient, persons, e airflow in an operating room. In a room in but especially in an operating room; correct? | 13:49:07 2 13:49:08 3 13:49:10 4 | Q. A. Q. A. | the ventilation? Ventilation's on. |
| 13:46:06 3 13:46:09 4 13:46:12 5 | before, affect the general, | oressure, temperature gradient, persons, e airflow in an operating room. In a room in but especially in an operating room; correct? I'm sorry. I didn't hear a question there. | 13:49:07 2 13:49:08 3 13:49:10 4 13:49:12 5 | Q. A. Q. A. could ha | the ventilation? Ventilation's on. It's a question of whether the ventilation |
| 13:46:06 3 13:46:09 4 13:46:12 5 13:46:15 6 | before, paffect the general, A. Q. | oressure, temperature gradient, persons, e airflow in an operating room. In a room in but especially in an operating room; correct? I'm sorry. I didn't hear a question there. | 13:49:07 2 13:49:08 3 13:49:10 4 13:49:12 5 13:49:14 6 | Q. A. Q. A. could ha Hugger, | the ventilation? Ventilation's on. It's a question of whether the ventilation ndle the heat load provided by the Bair |
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| | 0011111111 | 217 | | | 219 |
| 13:49:54 | MR. (| GOSS: I'll try not to eat my hand. | 13:52:22 1 | thev're t | aken. Okay? |
| • | | SSAAD: That's fine. | _ | they ie t | , |
| 13:49:56 | | | _ | those ni | MR. GOSS: You may not know if you have |
| 13:49:56 | BY MR. ASSAAI | | 13:52:25 | those pi | |
| 13:49:57 | | with Let's move on. | 13:52:26 4 | _ | MR. ASSAAD: Okay. |
| 13:50:02 5 | | u have the flow generator on and off | 13:52:31 5 | | Then what do you do next? What's the |
| 13:50:04 6 | and the Bair H | igger on and off for different okay, | 13:52:33 6 | protocol | , where where are people standing when you |
| 13:50:08 7 | for different tes | ting, okay. So you set up the | 13:52:37 7 | start tak | ing before you turn the Bair Hugger on? |
| 13:50:10 | patient and you | look and you do schlieren testing with | 13:52:41 8 | A. | Do you want me to answer the last part of |
| 13:50:13 | the Bair Hugge | r with the flow generation off | 13:52:43 | that que | stion? |
| 13:50:18 10 | Strike that. | | 13:52:44 10 | Q. | Let's start where people are standing. |
| 13:50:18 11 | Did v | ou do any testing with the flow | 13:52:46 11 | | All right. During the taking of the data |
| 13:50:20 12 | | nd the Bair Hugger on? | 13:52:52 12 | | ding at the camera position, which I can |
| 13:50:26 13 | _ | k we have an image. I'm not sure. | 13:52:55 13 | | to you if you're interested. |
| | | | | | |
| 13:50:42 14 | | ving exhibit.) All right. The images | 13:52:58 14 | | I know where the camera position is. That's |
| 13:51:01 15 | | ed here were all with the downflow on. | 13:53:00 15 | fine. | |
| 13:51:08 16 | | ion is did we do any image with the | 13:53:01 16 | | All right. It's you know it's a diagram |
| 13:51:11 17 | downflow off | | 13:53:03 17 | | otical system. And the other personnel are |
| 13:51:13 18 | Q. Yes. | | 13:53:05 18 | out of th | ne pic out of the picture, they're standing |
| 13:51:14 19 | A. an | d the Bair Hugger on. | 13:53:08 19 | away in | order not to interfere with the flow. |
| 13:51:15 20 | I'm g | oing to have to check the logbook, but | 13:53:11 20 | Q. | Who's turning on the Bair Hugger? |
| 13:51:18 21 | I can answer th | at. I can't give you an immediate | 13:53:13 21 | Α. | J. D. Miller. |
| 13:51:21 22 | answer. | , | 13:53:14 22 | Q. | Okay. And where is he standing? |
| 13:51:21 23 | | Now you turned you | 13:53:16 23 | | Well when he's turning it on he's there at |
| 13:51:21 23 | - | me get this straight. You You set | 13:53:16 23 | | Hugger unit, and then when it's reached its |
| | | | | | |
| 13:51:28 25 | | lanket, the Bair Hugger blanket, the | 13:53:22 25 | tempera | ture it gives a signal and then he goes and |
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| 13:51:32 | cotton blanket | and the drape on the mannequin, you | 13:53:25 | stands a | way from the experiment. |
| 13:51:34 2 | check everythii | ng and the flow generator is on; | 13:53:27 2 | Q. | Okay. And so when when the you're |
| 13:51:38 3 | correct? | | 13:53:31 3 | looking a | at you're talking the monitor of the little |
| 13:51:42 4 | A. Durin | g setup. | 13:53:33 4 | LED dev | ice; correct? |
| 13:51:43 5 | Q. Or be | fore you start the testing. | 13:53:33 5 | Α. | Yes. |
| 13:51:46 | A. Well | | 13:53:35 6 | Q. | So when it hits 43 degrees is that when he |
| 13:51:47 | I mea | in if you look at these cases that I | 13:53:38 7 | | way and says, okay, it's 43? |
| 13:51:49 | | e cases are with the downflow | 13:53:41 8 | | Yes. |
| 13:51:52 | generator on. | | 13:53:41 | Q. | |
| | - | The downflow generator's on | | | |
| 13:51:53 10 | | The downflow generator's on, | 13:53:43 10 | A. | Give it some time, make sure that everything |
| 13:51:56 11 | | et up, the mirrors are correct, this | 13:53:46 11 | | thed steady state, and then I take data, still |
| 13:51:59 12 | and that. | | 13:53:50 12 | _ | and videos. |
| 13:51:59 13 | A. Yes. | | 13:53:51 13 | Q. | |
| 13:52:00 14 | Q. Okay | And you filmed you do a schlieren | 13:53:52 14 | Α. | With the camera. |
| 13:52:02 15 | pictures with the | e Bair Hugger off; correct? | 13:53:53 15 | Q. | Okay. Now |
| 13:52:06 16 | A. "Off.' | | 13:53:56 16 | | But when you say "time," what's time? |
| 13:52:07 17 | Q. Yes. | Because you want to see the change; | 13:53:58 17 | What's s | steady state? |
| 13:52:10 18 | correct? | - · | 13:54:01 18 | | I'm observing the schlieren picture, and so |
| 13.32.10 | A. Yes. | | 13:54:04 19 | | visually observe and I'm not seeing visible |
| | | | 13:54:10 20 | | then I think we've reached steady state. |
| 13:52:11 19 | | It might not be denicted here but I | 10.04.10 | | aton I amin we we reactica steady state. |
| 13:52:11 19 13:52:11 20 | Q. Okay | It might not be depicted here, but I | | \cap | Okay |
| 13:52:11 19 13:52:11 20 13:52:14 21 | Q. Okay | | 13:54:14 21 | Q. | Okay. |
| 13:52:11 19 13:52:11 20 13:52:14 21 13:52:14 22 | Q. Okay A. Yes. | Yes. | 13:54:14 21 13:54:14 22 | Α. | We have a live video on our large monitor. |
| 13:52:11 | Q. Okay A. Yes. Q I'n | Yes. I going to assume that you told me you | 13:54:14 21 | _ | We have a live video on our large monitor. |
| 13:52:11 | Q. Okay A. Yes. Q I'n | Yes. | 13:54:14 21 13:54:14 22 | Α. | We have a live video on our large monitor. |
| 13:52:11 19 13:52:11 20 13:52:14 21 13:52:14 22 13:52:15 23 13:52:17 24 | Q. Okay A. Yes. Q I'n took pictures w | Yes. I going to assume that you told me you | 13:54:14 21 13:54:14 22 13:54:18 23 | A. Q. | • |
| 13.52:11 19 13.52:11 20 13.52:14 21 13.52:14 22 13.52:15 23 13.52:17 24 13.52:19 25 | Q. Okay A. Yes. Q I'n took pictures w I don | Yes. I going to assume that you told me you ith it off; okay? | 13:54:14 21 13:54:14 22 13:54:18 23 13:54:20 24 | A. Q. took? | We have a live video on our large monitor. Okay. And do you roughly know how long that |
| 13:52:11 19 13:52:11 20 13:52:14 21 13:52:14 22 13:52:15 23 13:52:17 24 | Q. Okay A. Yes. Q I'n took pictures w I don | Yes. I going to assume that you told me you lith it off; okay? It have those pictures, but supposedly | 13:54:14 21 13:54:14 22 13:54:18 23 13:54:20 24 | A. Q. took? A. | We have a live video on our large monitor. Okay. And do you roughly know how long that Not very long. Probably a minute. |

| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 58 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|---|--|---|--|
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 221 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 223 |
| 13:54:24 | Q. One minute? | 13:56:51 1 | A. Downflow is initially off, then turned on, |
| 13:54:26 2 | So you turn on the Bair Hugger device, J. D. | 13:56:53 | and you can see the the numbers indicating the |
| 13:54:31 3 | turns on the Bair Hugger device, gets out of the way; | 13:56:53 | Q . Okay. |
| 13:54:33 4 | is that correct? | 13:57:00 4 | A. stills and videos that were taken. |
| 13:54:34 5 | A. Let me say that the Bair Hugger device has | 13:57:02 5 | Q. Okay. And so you have all these numbers |
| 13:54:37 6 | been takes a long time to warm up. | 13:57:06 6 | here. What's the difference between 170, 171, 172, |
| 13:54:40 7 | Q. Well once it gets to 43. | 13:57:10 7 | 173, 175, 176? |
| 13:54:41 8 | A. Once it reaches, then he gets out of the | 13:57:13 | A. All right. If you read across in lines |
| 13:54:43 9 | way. | 13:57:17 9 | you'll see that 170 and 171 are just the Bair Hugger, |
| 13:54:43 10 | Q. Okay. So once the Bair Hugger hits 43 | 13:57:27 10 | and then in the next line down are this is my |
| 13:54:48 11 | degrees he gets out of the way; correct? A. Yes. | 13:57:33 11 | shorthand, J. D. is my assistant, J. D. Miller and |
| 13:54:49 12 13:54:50 13 | Q. Then you wait about a minute and then start | 13:57:37 12 13:57:43 13 | he's dressed up in in medical garb and he's in the picture. So he's simulating an operat doctor or an |
| 13:54:50 13 | videoing, correct, or pictures and video? | 13:57:43 13 | operating room personnel. |
| 13:54:54 15 | A. Assuming that I'm not seeing any variations | 13:57:48 14 | Q. And that's depicted in Figure 15; correct? |
| 13:54:58 16 | in anything on the schlieren image, that's right. | 13:57:55 16 | A. For example |
| 13:55:02 17 | Q. Okay. And your images are about 10 seconds | 13:57:55 17 | Yes. One minute. Let me check. Figure fif |
| 13:55:04 18 | long; correct? | 13:57:58 18 | Yes. Figure 15 a and b show him, and d. |
| 13:55:05 19 | A. The videos | 13:58:02 19 | Q. Okay. So let me just ask you this real |
| 13:55:05 20 | Q. Yes. | 13:58:05 20 | quick. Between 170 and pictures 195, this was all |
| 13:55:05 21 | A are about 10 seconds long. | 13:58:08 21 | during one setup; correct? |
| 13:55:08 22 | Q. That's what I meant. | 13:58:10 22 | A. It was all during one setup I believe, yes. |
| 13:55:10 23 | And then you do the tests and then you go | 13:58:13 23 | Q. And how long did it take to do all this, |
| 13:55:13 24 | shut off the Bair Hugger? | 13:58:15 24 | from the first picture of 170 to the last one of 195? |
| 13:55:16 25 | A. Depends on what the test protocol was at the | 13:58:21 25 | A. Well we haven't recorded a timestamp, so I'm |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | | | |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 222 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 224 |
| 13:55:18 1 | 222 | 13:58:26 | 224 |
| 13:55:18 1 13:55:20 2 | | 13:58:26 1 13:58:30 2 | |
| _ | 222 time, but if we're done with the Bair Hugger we shut | _ | 224 I would have to give you an estimate. I think we |
| 13:55:20 2 | time, but if we're done with the Bair Hugger we shut it off. | 13:58:30 2 | 224 I would have to give you an estimate. I think we spent all of a morning doing this work. |
| 13:55:20 2 13:55:21 3 | time, but if we're done with the Bair Hugger we shut it off. Q. Okay. How many times did you conduct the | 13:58:30 2 13:58:33 3 | I would have to give you an estimate. I think we spent all of a morning doing this work. Q. So it took you the Bair Hugger was on |
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| 13:55:20 2 13:55:21 3 13:55:24 4 13:55:34 5 13:55:36 6 13:55:36 7 13:55:38 8 13:55:41 9 13:55:42 10 13:55:57 11 13:55:59 12 13:56:00 13 13:56:04 14 13:56:07 15 13:56:09 16 13:56:13 17 13:56:16 18 13:56:25 19 | time, but if we're done with the Bair Hugger we shut it off. Q. Okay. How many times did you conduct the test of the Bair Hugger being turned on and doing schlieren imaging of like the area above the mannequin? A. I can determine that by studying the logbook. I don't have a number right immediately available. Q. Okay. All right. Now did you bring your original logbook today? A. No. Q. Okay. So the logbook is what we've been provided. Is that a complete copy of your logbook, you know, besides what's been redacted? A. It is. It ends, if you look at the last page, "END OF LAB NOTEBOOK," signed by me. Q. Okay. And if we go to page, I believe, 17, that's the day that you did testing with respect to | 13:58:30 2 13:58:33 3 13:58:35 4 13:58:39 5 13:58:43 6 13:58:47 7 13:58:53 8 13:58:57 9 13:58:58 10 13:59:01 11 13:59:01 12 13:59:01 14 13:59:01 15 13:59:15 16 13:59:15 17 13:59:21 18 13:59:21 18 | I would have to give you an estimate. I think we spent all of a morning doing this work. Q. So it took you the Bair Hugger was on from from the time from 170 to 195 continuously? A. That The morning was included setup and so forth, so the time during which these images were taken would have been less than four hours, but proba I'm guessing. I really don't know. Q. Well, I don't I don't have J. D. here, I have you, so I need to figure out, like, your methodology. So was the Bair Hugger ever turned off between the first picture of 170 and the last picture of 195? Well, I'm sorry. Let me rephrase that. At 180 you change it to the HotDog; correct? A. That's right. Q. Okay. And 176 is the Bair Hugger hose jet and the hairdryer. A. Yes. |
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| 13:55:20 2 13:55:21 3 13:55:24 4 13:55:34 5 13:55:36 6 13:55:36 7 13:55:38 8 13:55:41 9 13:55:42 10 13:55:57 11 13:55:59 12 13:56:00 13 13:56:01 14 13:56:07 15 13:56:01 17 13:56:16 18 13:56:25 19 13:56:30 20 13:56:35 21 13:56:38 22 13:56:41 23 13:56:44 24 | time, but if we're done with the Bair Hugger we shut it off. Q. Okay. How many times did you conduct the test of the Bair Hugger being turned on and doing schlieren imaging of like the area above the mannequin? A. I can determine that by studying the logbook. I don't have a number right immediately available. Q. Okay. All right. Now did you bring your original logbook today? A. No. Q. Okay. So the logbook is what we've been provided. Is that a complete copy of your logbook, you know, besides what's been redacted? A. It is. It ends, if you look at the last page, "END OF LAB NOTEBOOK," signed by me. Q. Okay. And if we go to page, I believe, 17, that's the day that you did testing with respect to the Bair Hugger on the mannequin; correct? MR. GOSS: 17 of the report, or MR. ASSAAD: Of the logbook, Exhibit 7. A. May 11th, Bair Hugger mannequin, arms were out, blanket, hip drape. Q. Okay. STIREWALT & ASSOCIATES | 13:58:30 2 13:58:33 3 13:58:35 4 13:58:35 5 13:58:43 6 13:58:47 7 13:58:53 8 13:58:57 9 13:58:58 10 13:59:01 11 13:59:01 12 13:59:01 14 13:59:01 15 13:59:15 16 13:59:15 17 13:59:21 18 13:59:21 18 13:59:22 19 13:59:23 20 13:59:26 21 13:59:28 22 13:59:29 23 13:59:21 24 | I would have to give you an estimate. I think we spent all of a morning doing this work. Q. So it took you the Bair Hugger was on from from the time from 170 to 195 continuously? A. That The morning was included setup and so forth, so the time during which these images were taken would have been less than four hours, but proba I'm guessing. I really don't know. Q. Well, I don't I don't have J. D. here, I have you, so I need to figure out, like, your methodology. So was the Bair Hugger ever turned off between the first picture of 170 and the last picture of 195? Well, I'm sorry. Let me rephrase that. At 180 you change it to the HotDog; correct? A. That's right. Q. Okay. And 176 is the Bair Hugger hose jet and the hairdryer. A. Yes. Q. So basically with the Bair Hugger setup it's between 170 and 176; correct? A. Correct. Q. Okay. And 170 and 171 are still pictures; correct? Or no. 171's a video. A. I have to check. STIREWALT & ASSOCIATES |
| 13:55:20 2 13:55:21 3 13:55:24 4 13:55:34 5 13:55:36 6 13:55:36 7 13:55:38 8 13:55:41 9 13:55:42 10 13:55:57 11 13:55:59 12 13:56:00 13 13:56:01 14 13:56:07 15 13:56:01 17 13:56:16 18 13:56:25 19 13:56:30 20 13:56:35 21 13:56:38 22 13:56:41 23 13:56:46 24 | time, but if we're done with the Bair Hugger we shut it off. Q. Okay. How many times did you conduct the test of the Bair Hugger being turned on and doing schlieren imaging of like the area above the mannequin? A. I can determine that by studying the logbook. I don't have a number right immediately available. Q. Okay. All right. Now did you bring your original logbook today? A. No. Q. Okay. So the logbook is what we've been provided. Is that a complete copy of your logbook, you know, besides what's been redacted? A. It is. It ends, if you look at the last page, "END OF LAB NOTEBOOK," signed by me. Q. Okay. And if we go to page, I believe, 17, that's the day that you did testing with respect to the Bair Hugger on the mannequin; correct? MR. GOSS: 17 of the report, or MR. ASSAAD: Of the logbook, Exhibit 7. A. May 11th, Bair Hugger mannequin, arms were out, blanket, hip drape. Q. Okay. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | 13:58:30 | I would have to give you an estimate. I think we spent all of a morning doing this work. Q. So it took you the Bair Hugger was on from from the time from 170 to 195 continuously? A. That The morning was included setup and so forth, so the time during which these images were taken would have been less than four hours, but proba I'm guessing. I really don't know. Q. Well, I don't I don't have J. D. here, I have you, so I need to figure out, like, your methodology. So was the Bair Hugger ever turned off between the first picture of 170 and the last picture of 195? Well, I'm sorry. Let me rephrase that. At 180 you change it to the HotDog; correct? A. That's right. Q. Okay. And 176 is the Bair Hugger hose jet and the hairdryer. A. Yes. Q. So basically with the Bair Hugger setup it's between 170 and 176; correct? A. Correct. Q. Okay. And 170 and 171 are still pictures; correct? Or no. 171's a video. A. I have to check. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | . 020 0 | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | • | 225 | | | 227 |
| 13:59:37 | _ | It's a video in your report, | 14:01:46 | timestar | nps removed, as you provided them to us. |
| 13:59:39 2 | Α. | All right. | 14:01:49 2 | | MR. GOSS: I'm not aware that we removed |
| 13:59:40 3 | Q. | let's just assume that it is. | 14:01:51 3 | anything | |
| 13:59:41 4 | | And 172, 173 and 174 are a video with J. D. | 14:01:51 4 | | MR. ASSAAD: Really? Because if you look |
| 13:59:45 5 | _ | the doctor. | 14:01:53 5 | at them | they're all on the same date and time. |
| 13:59:46 | | Correct. | 14:01:55 | | MR. GOSS: Well I I'm not aware that we |
| 13:59:46 7 | _ | And then 175, 176, what does that say? | 14:01:56 7 | | ny manipulation at all to the timestamps in |
| 13:59:49 | Α. | "Refocused." Sometimes there's a focusing | 14:01:59 | those ph | notographs or videos. |
| 13:59:54 | | make sure that we have a sharp image, and I | 14:02:00 9 | D) (14B | MR. ASSAAD: Okay. |
| 13:59:57 10 | have to | | 14:02:02 10 | | ASSAAD: |
| 13:59:58 11 | | So that was just more of a checks and | 14:02:03 11 | | So between 170 and 172 did you turn the Bair |
| 13:59:59 12 | balances | | 14:02:06 12 | | off before you so J. D. could dress up? |
| 14:00:00 13 | | Well it was about readjusting the optical | 14:02:09 13 | Α. | , , |
| 14:00:03 14 | - | let's say. | 14:02:12 14 | Q. | • |
| 14:00:04 15 | _ | And was that to do the Bair Hugger hose jet? | 14:02:24 15 | | MR. ASSAAD: Let's take a break, lunch. |
| 14:00:06 16 | Α. | No. Well that was refocused between 174 and | 14:02:29 16 | | THE REPORTER: Off the record, please. |
| 14:00:13 17 | 176. | Dubby 474 years about and booking the Daire | 14:02:31 17 | | (Luncheon recess taken at |
| 14:00:15 18 | | But by 174 you stopped testing the Bair | 18 | | approximately 2:02 p.m.) |
| 14:00:19 19 | | as a attached to the blanket; correct? | 19 | | |
| 14:00:22 20 | _ | I believe that's correct. | 20 | | |
| 14:00:23 21 | Q. | Okay. And when you did 172 | 21 | | |
| 14:00:30 22 | h | Okay. I'm almost done here before we take a | 22 | | |
| 14:00:32 23 | break. | Co behinson 170 and 174 air a mag an | 23 | | |
| 14:00:33 24 | annuavin | So between 170 and 174 give me an | 24 | | |
| 14:00:37 25 | арргохіі | nation, did it take 15 minutes, 10 minutes to STIREWALT & ASSOCIATES | 25 | | STIREWALT & ASSOCIATES |
| | , | I-800-553-1953 info@stirewalt.com | | , | I-800-553-1953 info@stirewalt.com |
| | | 1-000-333-1333 IIII0@3tileWalt.com | | | |
| | CC | NEIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | | |
| | CC | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 226 | | | ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 228 |
| 14:00:40 1 | do? Five | 226 | 1 | | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 14:00:40 1 14:00:45 2 | do? Five | 226 | 1 2 | | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 228 |
| | do? Five | 226 e? | | | ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 228 AFTERNOON SESSION |
| 14:00:45 2 | do? Five A. Q. | 226 e? Let's say a half hour. | 2 | CC | ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 228 AFTERNOON SESSION (Deposition reconvened at |
| 14:00:45 2 14:00:47 3 | do? Five A. Q. A. | 226 e? Let's say a half hour. It took a half hour | 3 | BY MR. / | ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 228 AFTERNOON SESSION (Deposition reconvened at approximately 2:48 p.m.) |
| 14:00:45 2 14:00:47 3 14:00:49 4 | do? Five A. Q. A. Q. | 226 e? Let's say a half hour. It took a half hour Well | 2 3 4 | BY MR. A | ASSAAD: ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 228 AFTERNOON SESSION (Deposition reconvened at approximately 2:48 p.m.) |
| 14:00:45 2 14:00:47 3 14:00:49 4 14:00:49 5 | do? Five A. Q. A. Q. | 226 e? Let's say a half hour. It took a half hour Well to do two to do one still shot, one | 2 3 4 14:48:48 5 | BY MR. A Q. of Exhib | ASSAAD: I'd like you to turn to page 16 of your |
| 14:00:45 2 14:00:47 3 14:00:49 4 14:00:49 5 14:00:53 6 | do? Five A. Q. A. Q. 10-secon A. | 226 e? Let's say a half hour. It took a half hour Well to do two to do one still shot, one and video, another 10-second video, another and video and another 10-second video? Well remember that we were 170 and 171 | 2 3 4 14:48:48 5 14:48:51 6 | BY MR. A. of Exhib | AFTERNOON SESSION (Deposition reconvened at approximately 2:48 p.m.) ASSAAD: I'd like you to turn to page 16 of your it 7, of your notes. |
| 14:00:45 2 14:00:47 3 14:00:49 4 14:00:53 6 14:00:56 7 | do? Five A. Q. A. Q. 10-secon 10-secon A. are with | 226 e? Let's say a half hour. It took a half hour Well to do two to do one still shot, one nd video, another 10-second video, another nd video and another 10-second video? Well remember that we were 170 and 171 out personnel involved, and then we had a | 2 3 4 14:48:48 5 14:48:51 6 14:49:02 7 14:49:03 8 14:49:06 9 | BY MR. A Q. of Exhib A. Q. velocity, | AFTERNOON SESSION (Deposition reconvened at approximately 2:48 p.m.) ASSAAD: I'd like you to turn to page 16 of your it 7, of your notes. Yes. I want I'm looking at the the the face velocity measurements |
| 14:00:45 2 14:00:47 3 14:00:49 4 14:00:49 5 14:00:58 6 14:00:56 7 14:00:58 8 | do? Five A. Q. A. Q. 10-secon 10-secon A. are with | 226 e? Let's say a half hour. It took a half hour Well to do two to do one still shot, one nd video, another 10-second video, another nd video and another 10-second video? Well remember that we were 170 and 171 out personnel involved, and then we had a ne one of our people step in, and he had to | 2 3 4 14:48:48 5 14:48:51 6 14:49:02 7 14:49:03 8 | BY MR. A Q. of Exhib A. Q. velocity, | AFTERNOON SESSION (Deposition reconvened at approximately 2:48 p.m.) ASSAAD: I'd like you to turn to page 16 of your it 7, of your notes. Yes. I want I'm looking at the the the face velocity measurements Yes. |
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| 14:00:45 | do? Five A. Q. A. Q. 10-secon 10-secon A. are with one of the | Let's say a half hour. It took a half hour Well to do two to do one still shot, one and video, another 10-second video, another and video and another 10-second video? Well remember that we were 170 and 171 out personnel involved, and then we had a ne one of our people step in, and he had to med up, so I believe there was a break. But ain, I don't have time steps here, so. | 2 3 4 14:48:48 5 14:49:51 6 14:49:02 7 14:49:03 8 14:49:06 9 14:49:08 10 14:49:09 11 14:49:13 12 | BY MR. A Q. of Exhib A. Q. velocity, A. Q. average | AFTERNOON SESSION (Deposition reconvened at approximately 2:48 p.m.) ASSAAD: I'd like you to turn to page 16 of your it 7, of your notes. Yes. I want I'm looking at the the the face velocity measurements Yes. right where it says "5/11/17" with the of 39? |
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|--|--|---|---|
| | 229 | | 231 |
| Α. | That's correct. | 14:51:37 | A. Let me answer that as best I can. If you |
| Q. | And those four numbers are at discrete | 14:51:42 2 | Suppose we had decided, well, let's take eight, so |
| points ir | n the in the quadrants; correct? | 14:51:44 3 | let's divide the area up so that there are eight |
| • | • | 14:51:48 4 | instead of four, it would more likely than not, make a |
| _ | | _ | difference in the average, but I think it would be a |
| ٠ | | | small difference. And if you went to 16 I think it |
| not the | | _ | would be an unnoticeable difference. |
| | | | Q. Well between quadrant A and quadrant C we're |
| • | | | seeing a Delta of about 23 feet per second; correct? |
| | No. Only those center measurements, those | | A. Right. |
| | Co citting have today, you don't have any | | |
| - | | | |
| | | | If you look at that Delta between those two |
| IS 39 OF | | | that's a huge standard deviation. |
| | - | | A. Between those two it is, yes. |
| | | | Q. Okay. So give me the range, based on your |
| | | 14:52:21 16 | education, training and experience, of what the the |
| measure | ements and he averaged them, so that's his | 14:52:25 17 | the extremes, the Delta, not the standard |
| basis. | | 14:52:28 18 | deviation, would be on the average here. |
| Q. | Do you understand my question? | 14:52:31 19 | A. That's |
| Α. | I understand your question. | 14:52:33 20 | Standard deviation's 12 on these |
| Q. | You're only taking four discrete points; | 14:52:36 21 | measurements, twelve feet per minute. |
| correct? | | 14:52:39 22 | Q. Twelve feet. |
| A. | Four discrete points. | 14:52:39 23 | A. Which is about 30 percent of |
| Q. | And we're talking about a system that's four | 14:52:42 24 | Q. And how'd you calc I'm sorry. |
| point | four by five; correct? | 14:52:45 25 | A. Sorry. |
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| | 230 | | 232 |
| Α. | Correct. | 14:52:45 1 | Q. How did you calculate the standard |
| Q. | Divided into four equal quadrants; correct? | 14:52:47 2 | deviation? |
| Α. | Yes. | 14:52:48 3 | A. Standard deviation code in Excel. |
| Q. | So you're basing the average face velocity | 14:52:50 4 | Q. In Excel. Okay. |
| on four | discrete points; correct? | 14:52:57 5 | Why didn't you take more data points, if you |
| Α. | That's right. | 14:53:00 6 | if you realized that each quadrant's giving you a |
| Q. | And to do that you have to assume that each | 14:53:04 7 | significantly different face velocity? |
| quadran | t has the same mass flow; correct? | 14:53:06 | A. I think I answered it. You could take more |
| Α. | Correct. | 14:53:09 | data and it would make up to a point it would make |
| Q. | | | |
| α. | And the same face velocity. | 14:53:13 10 | a little it would make some difference, and then |
| Д. А. | | | |
| | Correct. | 14:53:13 10 14:53:16 11 14:53:19 12 | more and more data points would not make any |
| A. Q. | Correct. And we are absolutely certain, sitting here | 14:53:16 11 14:53:19 12 | more and more data points would not make any difference any more. |
| A. Q. today, t | Correct. And we are absolutely certain, sitting here hat each quadrant has a different face | 14:53:16 11 14:53:19 12 14:53:20 13 | more and more data points would not make any difference any more. Q. So technically speaking based on your |
| A. Q. today, t | Correct. And we are absolutely certain, sitting here hat each quadrant has a different face at the points that you've taken; correct? | 14:53:16 11 14:53:19 12 14:53:20 13 14:53:22 14 | more and more data points would not make any difference any more. Q. So technically speaking based on your standard deviation, the schlieren testing that you |
| A. Q. today, t velocity | Correct. And we are absolutely certain, sitting here hat each quadrant has a different face at the points that you've taken; correct? Well that's what these measurements show. | 14:53:16 11 14:53:19 12 14:53:20 13 14:53:22 14 14:53:26 15 | more and more data points would not make any difference any more. Q. So technically speaking based on your standard deviation, the schlieren testing that you performed on this day could have a face velocity up to |
| A. Q. today, t velocity A. Q. | Correct. And we are absolutely certain, sitting here hat each quadrant has a different face at the points that you've taken; correct? Well that's what these measurements show. So we could agree to that today; correct? | 14:53:16 11 14:53:19 12 14:53:20 13 14:53:22 14 14:53:26 15 14:53:33 16 | more and more data points would not make any difference any more. Q. So technically speaking based on your standard deviation, the schlieren testing that you performed on this day could have a face velocity up to 51 feet per minute; correct? |
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| | A. Q. points ir A. Q. not the quadran A. four. Q. basis to is 39 of measure basis. Q. A. Q. correct? A. Q. point | A. That's correct. Q. And those four numbers are at discrete points in the in the quadrants; correct? A. Center of the quadrants. Q. The center. And do you have any opinion of whether or not the face velocity is constant throughout each quadrant? A. No. Only those center measurements, those four. Q. So sitting here today, you don't have any basis to support that the true average face velocity is 39 of of the entire flow generator. MR. GOSS: Object to form. MR. ASSAAD: Basis? MR. GOSS: I think he said he took these measurements and he averaged them, so that's his basis. Q. Do you understand my question? A. I understand your question. Q. You're only taking four discrete points; correct? A. Four discrete points. Q. And we're talking about a system that's four point four by five; correct? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 230 A. Correct. Q. Divided into four equal quadrants; correct? A. Yes. Q. So you're basing the average face velocity on four discrete points; correct? A. That's right. Q. And to do that you have to assume that each quadrant has the same mass flow; correct? A. Correct. | A. That's correct. Q. And those four numbers are at discrete points in the in the quadrants; correct? A. Center of the quadrants. Q. The center. And do you have any opinion of whether or not the face velocity is constant throughout each quadrant? A. No. Only those center measurements, those four. Q. So sitting here today, you don't have any basis to support that the true average face velocity is 39 of of the entire flow generator. MR. GOSS: Object to form. MR. ASSAAD: Basis? MR. GOSS: I think he said he took these measurements and he averaged them, so that's his basis. Q. Do you understand my question? A. I understand your question. Q. You're only taking four discrete points; correct? A. Four discrete points. Q. And we're talking about a system that's four point four by five; correct? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 230 A. Correct. Q. Divided into four equal quadrants; correct? A. That's right. Q. And to do that you have to assume that each quadrant has the same mass flow; correct? A. That's right. Q. And to do that you have to assume that each quadrant has the same mass flow; correct? A. That's same mass flow; correct? A. That's right. Q. And to do that you have to assume that each quadrant has the same mass flow; correct? |

| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 61 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|---|--|--|---|
| | 233 | | 235 |
| 14:53:51 | If you looked at the standard deviation you | 14:56:32 | Q. Okay. And it could be as low as, under the |
| 14:53:53 2 | provided of 12, | 14:56:35 | under your statistical analysis, as low as 27. |
| 14:53:54 | A. Twelve. | 14:56:51 3 | A. All right. |
| 14:53:54 | Q that at any given point the face | 14:56:51 4 | Q. Okay. So sitting here today when you took |
| 14:53:56 5 | velocity could be 51 feet per second. | 14:56:54 5 | the the images of the the schlieren images say, |
| 14:53:59 6 | A. I do not see that. | 14:57:00 6 | for example, in Exhibit 2, Figure 10, page 12, you |
| 14:54:02 7 | We are providing the face velocity at four | 14:57:13 7 | can't tell me the exact face velocity that was |
| 14:54:06 | points. Standard deviation is 12 feet per minute. | 14:57:17 | occurring at that specific point in time that was |
| 14:54:10 | [Clearing throat.] I'm sorry. | 14:57:19 | being generated by the flow generator; can you? |
| 14:54:12 10 | So in A if you subtract 12 that would be 42, | 14:57:22 10 | A. Sure. 39, plus or minus standard deviation, |
| 14:54:21 11 | and in D if you add 12 that would be 39. I didn't | 14:57:25 11 | which is 12. |
| 14:54:21 12 | [Water provided to the witness.] | 14:57:25 12 | Q. Okay. I'm asking for exact. |
| 14:54:29 13 | THE WITNESS: That's okay. I'll use the | 14:57:27 13 | A. That's the best data we have. |
| 14:54:31 14 | soda. | 14:57:29 14 | Q. Okay. So you can't give me an exact number. |
| 14:54:31 15 | A. I didn't understand | 14:57:32 15 | MR. GOSS: Object, asked and answered. |
| 14:54:31 16 | Q. Okay. | 14:57:33 16 | A. Asked and answered. |
| 14:54:33 17 | A. the way you phrased it. | 14:57:35 17 | Q. Is it 40? |
| 14:54:35 18 | Q. Okay. My understanding of standard | 14:57:37 18 | It could be 40; correct? |
| 14:54:45 19 | deviation is a range within the I guess it's the | 14:57:38 19 | A. I've already answered you, sir. |
| 14:54:48 20 | 66th percentile up and down, correct, of where you | 14:57:41 20 | Q. But it could be 40; correct? |
| 14:54:51 21 | would expect | 14:57:41 21 | A. It could be. |
| 14:54:52 22 | A. It's a statistical measure of deviance of | 14:57:42 22 | Q. It could be 45. |
| 14:54:54 23 | data points. | 14:57:43 23 | A. The difference between 39 and 40 is a |
| 14:54:56 24 | Q. Uh-huh. And based on my understanding, | 14:57:45 24 | trivial difference. |
| 14:55:02 25 | based on the standard deviation and the average, that | 14:57:46 25 | Q. What about the difference between 39 and 52; |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 234 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 236 |
| 14:55:07 1 | 234 when you run the schlieren video you could have a | 14:57:48 1 | |
| 14:55:07 1 14:55:12 2 | when you run the schlieren video you could have a average face velocity larger than 39; correct? | 14:57:48 1 14:57:52 2 | 236 |
| | when you run the schlieren video you could have a average face velocity larger than 39; correct? A. You are suggesting if we had taken more data | _ | is that trivial as well? A. And remember No, it's not trivial. |
| 14:55:12 2 | when you run the schlieren video you could have a average face velocity larger than 39; correct? A. You are suggesting if we had taken more data points then that would have yielded a different | 14:57:52 2 | is that trivial as well? A. And remember No, it's not trivial. Q. Okay. Do you agree with me, or |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 023-0 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| _ | 237 | | 239 |
| 14:59:30 | Q. What about a 20 percent difference? | 15:01:47 | or not a change in the average face velocity with a |
| 14:59:32 2 | A. I'm not so sure. | 15:01:55 2 | standard deviation would have an effect on your |
| 14:59:34 3 | Q. What about a 10 percent difference? | 15:01:57 3 | results? |
| 14:59:35 4 | A. I don't think that's significant.Q. Okay. You agree with me that with respect | 15:01:58 4 | A. No.Q. Okay. And in fact you would agree with me |
| • | to the convection currents Let me rewind. | • | that the average face velocity changed on every given |
| 14:59:50 6 14:59:57 7 | The images that we're seeing that are coming | 15:02:02 6 15:02:08 7 | day that you turned this machine on. |
| 15:00:01 | off the Bair Hugger are convection currents; correct? | 15:02:10 | A. Well those data are here, but it didn't |
| 15:00:04 | A. You're referring to Figure 10? | 15:02:15 | change a lot. We set it average at 41. I have to go |
| 15:00:06 10 | Q. Yes. | 15:02:21 10 | back a few page No. Wait a minute. |
| 15:00:06 11 | A. Those are convection currents. | 15:02:31 11 | Well we were still Yeah. 5 May, 44 and a |
| 15:00:08 12 | Q. Okay. And you agree with me that there is a | 15:02:37 12 | half was the average, and in that was on page |
| 15:00:11 13 | convection current a convection current force | 15:02:42 13 | Q. I have that. |
| 15:00:16 14 | that's being opposed by the downward air force the | 15:02:44 14 | A. 15. And on page 16, 39 was the average. |
| 15:00:22 15 | downward flow force; correct? | 15:02:48 15 | Q. Okay. |
| 15:00:24 16 | A. In other words, a buoyant force in the | 15:02:48 16 | A. We were checking the face velocity every |
| 15:00:25 17 | convection current and the downward air force | 15:02:50 17 | day. |
| 15:00:28 18 | Q. Yes. | 15:02:50 18 | Q. Okay. What was the face velocity on May |
| 15:00:29 19 | A. opposing one another. I agree with that. | 15:02:53 19 | 15th? |
| 15:00:31 20 | Q. Okay. And do you know the calculations to | 15:03:04 20 | A. I have not recorded a face velocity for that |
| 15:00:32 21 | determine the different forces? Would that be the | 15:03:05 21 | day. |
| 15:00:39 22 | Navier-Stokes equations? | 15:03:06 22 | Q. So sitting here today we don't know what the |
| 15:00:41 23 | A. Yes. | 15:03:08 23 | face velocity is on May 15th; correct? |
| 15:00:41 24 | (Interruption by the reporter.) | 15:03:10 24 | A. The assumption was that we had gotten the |
| 15:00:41 25 | A. Yes. I know the Navier-Stokes equations. | 15:03:12 25 | face velocity at 39, which is essentially the desired |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONCIDENTIAL SUBJECT TO DEOTECTIVE ORDER | | |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| 15:00:44 1 | 238 | 15:03:19 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 240 |
| 15:00:44 1 15:00:46 2 | | 15:03:19 1 15:03:23 2 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| _ | 238 Q. Okay. And of course temperature is a | _ | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 240 value with the throttle setting of 17, and we could go right back to that throttle setting and expect the |
| 15:00:46 2 | Q. Okay. And of course temperature is a component of the Navier-Stokes equation; correct? | 15:03:23 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 240 value with the throttle setting of 17, and we could go right back to that throttle setting and expect the |
| 15:00:46 2 15:00:49 3 | Q. Okay. And of course temperature is a component of the Navier-Stokes equation; correct? A. If there are temperature differences it | 15:03:23 2 15:03:25 3 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 240 value with the throttle setting of 17, and we could go right back to that throttle setting and expect the same face velocity. We did check it later, but I |
| 15:00:46 2 15:00:49 3 15:00:51 4 | Q. Okay. And of course temperature is a component of the Navier-Stokes equation; correct? A. If there are temperature differences it comes into the energy equation that is part goes | 15:03:23 2 15:03:25 3 15:03:30 4 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 240 value with the throttle setting of 17, and we could go right back to that throttle setting and expect the same face velocity. We did check it later, but I apparently did not record it on that day, no. |
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| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 63 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|--|---|---|---|
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 241 | | 243 |
| 15:04:31 1 | A. This is my judgment based on the experiment | 15:06:17 1 | A. I'll answer that question by saying that |
| 15:04:34 2 | that I was performing. | 15:06:23 | we're not doing PIV here and measuring quantitative |
| 15:04:35 | Q. So my understanding is it's your judgment | 15:06:28 3 | values, it's a flow visualization. And in my |
| 15:04:36 4 | and you have no scientific basis besides your | 15:06:31 4 | experience with the schlieren system, a 10 percent |
| 15:04:39 5 | judgment? | 15:06:34 5 | error in flow velocities in a scenario like this where |
| 15:04:42 6 | A. Experimental error can be one percent in | 15:06:37 6 | the flow mixes out with distance is not going to make |
| 15:04:44 7 | some situations and 50 percent in others. | 15:06:40 7 | a significant change in the visualizations that you're |
| 15:04:48 8 | Q. I agree, and you have to look at every | 15:06:43 | seeing in these images. |
| 15:04:49 9 | situation to determine what is an acceptable | 15:07:04 9 | Q. When you did |
| 15:04:51 10 | experimental error; correct? | 15:07:05 10 | When you took the pictures of Figure 10 a, |
| 15:04:56 11 | A. What do you mean "every situation"? | 15:07:15 11 | did you at that time measure the temperature of the |
| 15:04:58 12 | Q. For example, if I'm going to if I'm | 15:07:20 12 | knee or the drape on top of the patient? |
| 15:05:00 13 | designing a rocket | 15:07:35 13 | A. One moment while I have a look here. |
| 15:05:01 14 | A. Okay. | 15:07:38 14 | THE WITNESS: Sorry. |
| 15:05:01 15 | Q that goes into space | 15:07:43 15 | A. So that was done on May 11, and the those |
| 15:05:03 16 | Well let's put it this way. You don't want | 15:07:49 16 | temperature measurements were done on May 15th, so the |
| 15:05:05 17 | You don't want to fly back home or take an airplane | 15:07:51 17 | answer is no, not on the same day. |
| 15:05:08 18 | that has an experimental error of 10 percent; do you? | 15:07:54 18 | Q. Okay. You agree with me that based on your |
| 15:05:14 19 | Correct? | 15:08:05 19 | temperature measurements that the air the area |
| 15:05:18 20 15:05:18 21 | A. I don't Q. Okay. | 15:08:08 20 15:08:11 21 | underneath the operating room table increased in temperature; correct? |
| 15:05:18 2 1 15:05:19 22 | A know [Clearing throat.] Excuse me. | 15:08:11 21 15:08:15 22 | A. Increased in temperature due to what? |
| 15:05:19 22 | [Clearing throat.] | 15:08:15 22 | Q. The Bair Hugger being on. |
| 15:05:19 23 | I don't know what an experimental error of | 15:08:17 23 | A. Well I don't have measurements here of |
| 15:05:22 25 | 10 percent means in that scenario. [Clearing throat.] | 15:08:21 25 | temperature when the Bair Hugger is off. |
| 15.05.22 | STIREWALT & ASSOCIATES | 15.06.21 | STIREWALT & ASSOCIATES |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 242 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 244 |
| 15:05:23 | | 15:08:26 1 | Q. So when you basically said that the Bair |
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| 15:05:25 2 15:05:27 3 15:05:30 4 15:05:32 5 15:05:36 7 15:05:39 8 15:05:44 9 15:05:44 10 15:05:51 11 15:05:51 12 15:05:53 13 15:05:55 14 | Excuse me a second. Q. In this scenario, an experimental error of 10 percent, what's when you say that's okay, you have to have some sort of experimental data to support that. Ten percent is not going to give us different results; will it? MR. GOSS: Objection to form. A. Ten percent was our goal, and considered to be, with a device of this type, a good experimental error. Unfortunately, we didn't quite achieve it. Q. You didn't You didn't achieve 10 percent error. A. Didn't achieve 10 percent, no. Q. You got much greater than 10 percent; | 15:08:29 | Q. So when you basically said that the Bair Hugger doesn't cause convection currents coming from under the drape and you you said your support was Figure 12 because Figure 11 a is no longer reliable, what was your basis behind that? A. Your What are you referring to, my my conclusions? Q. No. Referring to Figure 12. A. No. You said when I said so and so. Q. Well you mentioned earlier in the deposition that Figure 11 a is no longer reliable and that's why you omitted it from Exhibit 2. A. That is correct. |
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| 15.05:25 2 15.05:27 3 15.05:30 4 15.05:35 6 15.05:36 7 15.05:39 8 15.05:44 9 15.05:44 10 15.05:51 11 15.05:51 12 15.05:53 13 15.05:55 14 15.05:55 15 15.05:58 16 | Excuse me a second. Q. In this scenario, an experimental error of 10 percent, what's when you say that's okay, you have to have some sort of experimental data to support that. Ten percent is not going to give us different results; will it? MR. GOSS: Objection to form. A. Ten percent was our goal, and considered to be, with a device of this type, a good experimental error. Unfortunately, we didn't quite achieve it. Q. You didn't You didn't achieve 10 percent error. A. Didn't achieve 10 percent, no. Q. You got much greater than 10 percent; correct? A. It was | 15:08:29 2 15:08:33 3 15:08:35 4 15:08:39 5 15:08:48 6 15:08:49 7 15:08:50 8 15:08:51 9 15:08:53 10 15:08:56 11 15:09:03 13 15:09:07 14 15:09:07 15 15:09:08 16 15:09:13 17 15:09:15 18 | Q. So when you basically said that the Bair Hugger doesn't cause convection currents coming from under the drape and you you said your support was Figure 12 because Figure 11 a is no longer reliable, what was your basis behind that? A. Your What are you referring to, my my conclusions? Q. No. Referring to Figure 12. A. No. You said when I said so and so. Q. Well you mentioned earlier in the deposition that Figure 11 a is no longer reliable and that's why you omitted it from Exhibit 2. A. That is correct. Q. Okay. And therefore And that was to show convection currents |
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| 15.05:25 2 15.05:25 3 15.05:30 4 15.05:35 6 15.05:36 7 15.05:39 8 15.05:44 9 15.05:48 10 15.05:51 12 15.05:51 12 15.05:55 14 15.05:55 15 15.05:58 16 15.05:58 17 15.05:59 18 15.05:59 19 15.06:01 20 15.06:04 21 15.06:07 22 15.06:10 23 | Excuse me a second. Q. In this scenario, an experimental error of 10 percent, what's when you say that's okay, you have to have some sort of experimental data to support that. Ten percent is not going to give us different results; will it? MR. GOSS: Objection to form. A. Ten percent was our goal, and considered to be, with a device of this type, a good experimental error. Unfortunately, we didn't quite achieve it. Q. You didn't You didn't achieve 10 percent error. A. Didn't achieve 10 percent, no. Q. You got much greater than 10 percent; correct? A. It was MR. GOSS: Object to form. A significantly greater. (Interruption by the reporter.) Q. Okay. And the fact that it's significantly greater, you agree with me that that takes away from the persuasiveness of the experimental results; correct? | 15:08:29 2 15:08:33 3 15:08:35 4 15:08:39 5 15:08:48 6 15:08:49 7 15:08:50 8 15:08:51 9 15:08:53 10 15:08:56 11 15:09:07 14 15:09:07 14 15:09:07 15 15:09:18 16 15:09:18 17 15:09:15 18 15:09:16 19 15:09:18 20 15:09:19 21 15:09:21 22 15:09:24 23 | Q. So when you basically said that the Bair Hugger doesn't cause convection currents coming from under the drape and you you said your support was Figure 12 because Figure 11 a is no longer reliable, what was your basis behind that? A. Your What are you referring to, my my conclusions? Q. No. Referring to Figure 12. A. No. You said when I said so and so. Q. Well you mentioned earlier in the deposition that Figure 11 a is no longer reliable and that's why you omitted it from Exhibit 2. A. That is correct. Q. Okay. And therefore And that was to show convection currents underneath around the drape or underneath the drape; correct? A. That was the purpose, but it was flawed and so it was removed. Q. And you said, but I can make that opinion because I'm relying on Figure 12, because you took temperature measurements; correct? |
| 15.05:25 2 15.05:27 3 15.05:30 4 15.05:32 5 15.05:35 6 15.05:39 8 15.05:44 9 15.05:48 10 15.05:51 12 15.05:51 12 15.05:52 14 15.05:55 14 15.05:55 14 15.05:58 16 15.05:59 18 15.05:59 18 15.05:59 19 15.06:01 20 15.06:01 20 15.06:07 22 15.06:10 23 15.06:11 24 | Excuse me a second. Q. In this scenario, an experimental error of 10 percent, what's when you say that's okay, you have to have some sort of experimental data to support that. Ten percent is not going to give us different results; will it? MR. GOSS: Objection to form. A. Ten percent was our goal, and considered to be, with a device of this type, a good experimental error. Unfortunately, we didn't quite achieve it. Q. You didn't You didn't achieve 10 percent error. A. Didn't achieve 10 percent, no. Q. You got much greater than 10 percent; correct? A. It was MR. GOSS: Object to form. A significantly greater. (Interruption by the reporter.) Q. Okay. And the fact that it's significantly greater, you agree with me that that takes away from the persuasiveness of the experimental results; correct? MR. GOSS: Objection form, calls for | 15:08:29 2 15:08:33 3 15:08:35 4 15:08:39 5 15:08:48 6 15:08:49 7 15:08:50 8 15:08:51 9 15:08:53 10 15:08:56 11 15:09:00 12 15:09:07 14 15:09:07 15 15:09:15 18 15:09:15 18 15:09:16 19 15:09:18 20 15:09:19 21 15:09:21 22 15:09:24 23 15:09:26 24 | Q. So when you basically said that the Bair Hugger doesn't cause convection currents coming from under the drape and you you said your support was Figure 12 because Figure 11 a is no longer reliable, what was your basis behind that? A. Your What are you referring to, my my conclusions? Q. No. Referring to Figure 12. A. No. You said when I said so and so. Q. Well you mentioned earlier in the deposition that Figure 11 a is no longer reliable and that's why you omitted it from Exhibit 2. A. That is correct. Q. Okay. And therefore And that was to show convection currents underneath around the drape or underneath the drape; correct? A. That was the purpose, but it was flawed and so it was removed. Q. And you said, but I can make that opinion because I'm relying on Figure 12, because you took temperature measurements; correct? A. I don't remember saying that. |
| 15:05:25 2 15:05:27 3 15:05:30 4 15:05:32 5 15:05:35 6 15:05:36 7 15:05:39 8 15:05:44 9 15:05:51 11 15:05:51 12 15:05:55 14 15:05:55 15 15:05:58 16 15:05:58 17 15:05:59 18 15:05:59 19 15:06:01 20 15:06:04 21 15:06:07 22 15:06:07 23 | Excuse me a second. Q. In this scenario, an experimental error of 10 percent, what's when you say that's okay, you have to have some sort of experimental data to support that. Ten percent is not going to give us different results; will it? MR. GOSS: Objection to form. A. Ten percent was our goal, and considered to be, with a device of this type, a good experimental error. Unfortunately, we didn't quite achieve it. Q. You didn't You didn't achieve 10 percent error. A. Didn't achieve 10 percent, no. Q. You got much greater than 10 percent; correct? A. It was MR. GOSS: Object to form. A significantly greater. (Interruption by the reporter.) Q. Okay. And the fact that it's significantly greater, you agree with me that that takes away from the persuasiveness of the experimental results; correct? MR. GOSS: Objection form, calls for speculation. | 15:08:29 2 15:08:33 3 15:08:35 4 15:08:39 5 15:08:48 6 15:08:49 7 15:08:50 8 15:08:51 9 15:08:53 10 15:08:56 11 15:09:07 14 15:09:07 14 15:09:07 15 15:09:18 16 15:09:18 17 15:09:15 18 15:09:16 19 15:09:18 20 15:09:19 21 15:09:21 22 15:09:24 23 | Q. So when you basically said that the Bair Hugger doesn't cause convection currents coming from under the drape and you you said your support was Figure 12 because Figure 11 a is no longer reliable, what was your basis behind that? A. Your What are you referring to, my my conclusions? Q. No. Referring to Figure 12. A. No. You said when I said so and so. Q. Well you mentioned earlier in the deposition that Figure 11 a is no longer reliable and that's why you omitted it from Exhibit 2. A. That is correct. Q. Okay. And therefore And that was to show convection currents underneath around the drape or underneath the drape; correct? A. That was the purpose, but it was flawed and so it was removed. Q. And you said, but I can make that opinion because I'm relying on Figure 12, because you took temperature measurements; correct? A. I don't remember saying that. Q. Okay. So you have no opinion, sitting here |
| 15.05:25 2 15.05:27 3 15.05:30 4 15.05:32 5 15.05:35 6 15.05:39 8 15.05:44 9 15.05:48 10 15.05:51 12 15.05:51 12 15.05:52 14 15.05:55 14 15.05:55 14 15.05:58 16 15.05:59 18 15.05:59 18 15.05:59 19 15.06:01 20 15.06:01 20 15.06:07 22 15.06:10 23 15.06:11 24 | Excuse me a second. Q. In this scenario, an experimental error of 10 percent, what's when you say that's okay, you have to have some sort of experimental data to support that. Ten percent is not going to give us different results; will it? MR. GOSS: Objection to form. A. Ten percent was our goal, and considered to be, with a device of this type, a good experimental error. Unfortunately, we didn't quite achieve it. Q. You didn't You didn't achieve 10 percent error. A. Didn't achieve 10 percent, no. Q. You got much greater than 10 percent; correct? A. It was MR. GOSS: Object to form. A significantly greater. (Interruption by the reporter.) Q. Okay. And the fact that it's significantly greater, you agree with me that that takes away from the persuasiveness of the experimental results; correct? MR. GOSS: Objection form, calls for | 15:08:29 2 15:08:33 3 15:08:35 4 15:08:39 5 15:08:48 6 15:08:49 7 15:08:50 8 15:08:51 9 15:08:53 10 15:08:56 11 15:09:00 12 15:09:07 14 15:09:07 15 15:09:15 18 15:09:15 18 15:09:16 19 15:09:18 20 15:09:19 21 15:09:21 22 15:09:24 23 15:09:26 24 | Q. So when you basically said that the Bair Hugger doesn't cause convection currents coming from under the drape and you you said your support was Figure 12 because Figure 11 a is no longer reliable, what was your basis behind that? A. Your What are you referring to, my my conclusions? Q. No. Referring to Figure 12. A. No. You said when I said so and so. Q. Well you mentioned earlier in the deposition that Figure 11 a is no longer reliable and that's why you omitted it from Exhibit 2. A. That is correct. Q. Okay. And therefore And that was to show convection currents underneath around the drape or underneath the drape; correct? A. That was the purpose, but it was flawed and so it was removed. Q. And you said, but I can make that opinion because I'm relying on Figure 12, because you took temperature measurements; correct? A. I don't remember saying that. |

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|--|---|--|---|
| | 245 | _ | 247 |
| 15:09:30 | today, that the Bair Hugger with respect to what | 15:12:22 1 | A. I believe that that's could be stated as |
| 15:09:33 2 | the Bair Hugger caused with convection currents coming | 15:12:25 2 | a corollary of the second law or a form of the second |
| 15:09:35 | from underneath the operating room table; correct? | 15:12:29 3 | law. |
| 15:09:37 4 | A. Unfortunately we weren't able to make a | 15:12:29 4 | Q. Okay. And the second law is what? |
| 15:09:39 5 | measurement to address that. | 15:12:31 5 | A. That entropy increases in the universe. |
| 15:09:40 6 | Q. Okay. So sitting here today you have no | 15:12:34 6 | Q. Okay. And entropy is disorder. It goes |
| 15:09:45 7 | opinion with respect to whether or not convection | 15:12:36 7 | from |
| 15:09:51 | currents occur from underneath the operating room | 15:12:36 | A. Right. |
| • | table; correct? | 15:12:37 | Q order to disorder; correct? |
| | <u>'</u> | | _ |
| 15:09:57 10 | A. Well I'll just point out that there is a | 15:12:38 10 | |
| 15:10:00 11 | temperature difference from room temperature, but | 15:12:39 11 | Q. I don't know if Peter Goss told you, but I |
| 15:10:05 12 | beyond that I don't have schlieren evidence to show | 15:12:42 12 | studied mechanical engineering in undergrad. |
| 15:10:08 13 | convection currents underneath the table. | 15:12:44 13 | A. He did. Florida, I believe. |
| 15:10:11 14 | Q. So you're no longer offering any opinion | 15:12:46 14 | Q. Yeah. Figured he told probably told you |
| 15:10:13 15 | with respect to that in your report or at trial; | 15:12:47 15 | a lot about me. |
| 15:10:19 16 | correct? | 15:12:48 16 | A. No, just that. |
| 15:10:19 17 | MR. GOSS: With respect to the Bair Hugger | 15:12:49 17 | (Laughter.) |
| 15:10:21 18 | forming convection currents under the operating | 15:12:51 18 | Q. So for |
| 15:10:24 19 | table? | | |
| | | 15:12:55 19 | And what is, your understanding, the skin |
| 15:10:24 20 | MR. ASSAAD: Yes. | 15:12:59 20 | temperature of a person around the core? |
| 15:10:27 21 | A. That's That's correct. | 15:13:04 21 | A. Well a healthy person would have a core |
| 15:10:30 22 | Q. Okay. Now what is your understanding of how | 15:13:07 22 | temperature that's typically referred to as 98.6 |
| 15:10:40 23 | the Bair Hugger works with respect to patient warming? | 15:13:11 23 | Fahrenheit. The room temperature in this in these |
| 15:10:55 24 | A. I'll answer that question by referring to | 15:13:14 24 | cases, just to take an example, was 17, and the skin |
| 15:10:58 25 | Figure 8 b and Figure 9. And those measurements show | 15:13:17 25 | temperature would be between those two, and probably |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 246 | | 248 |
| | | | |
| 15:11:05 | the micro-jets coming from the already discussed | 15:13:20 | closer to the air than to the core temperature. |
| 15:11:11 2 | hundreds of orifices, and these are warm air | 15:13:25 | Am I answering your question? |
| 15:11:15 3 | | 15:13:26 3 | Q. So it's your understanding that the skin |
| 15:11:20 4 | 33 degrees C at the exit, but mixing out quickly to | 15:13:29 4 | temperature of a person is closer to the ambient |
| 15:11:26 5 | room temperature. | 15:13:33 5 | temperature than the core temperature? |
| 15:11:28 6 | Q. Okay. | 15:13:34 6 | A. I'm not sure of that, but it's somewhere |
| 15:11:28 7 | A. And so my understanding of the function of | 15:13:36 7 | between the two. |
| 15:11:33 | the Bair Hugger blanket is that it is those warm air | 15:13:37 | Q. Okay. Do you know what hypothermia is? |
| 15:11:37 | micro-jets impinging on the patient that accomplishes | 15:13:50 9 | A. Yes. |
| 15:11:42 10 | the chore of warming the patient. | 15:13:51 10 | Q. Used in this case by anesthesiologists, do |
| | | | • |
| 15:11:45 11 | Q. Okay. Now let's talk about heat transfer. | 15:13:54 11 | you know what the definition of hypothermia is? |
| 15:11:47 12 | A. Okay. | 15:13:57 12 | A. Yes. |
| 15:11:48 13 | Q. You agree with me that when you have two | 15:13:57 13 | Q. What is it? |
| 15:11:51 14 | materials heat will transfer from the hotter material | 15:13:58 14 | A. I'll give you |
| 15:11:53 15 | to the colder material. | 15:13:59 15 | And I'll phrase it in my terms. It is a |
| 15:11:54 16 | A. I agree with that. | 15:14:02 16 | depression of the body core temperature during |
| 15:11:55 17 | Q. Okay. So, for example, if you put a a | 15:14:05 17 | anesthesia. |
| 15:12:00 18 | cold pot of water on the stove and you put you turn | 15:14:07 18 | Q. Okay. And what is the threshold that peo |
| 15:12:03 19 | on the gas, you'll get heat transfer from the gas to | 15:14:14 19 | that pa that anesthesiologists would say this |
| 15:12:07 20 | the cold water; correct? | 15:14:16 20 | person is hypothermic or not. Do you know what |
| 15:12:07 20 15:12:08 21 | A. Yes. | 15:14:16 20 15:14:20 21 | |
| | | | temperature? |
| 15:12:09 22 | Q. Okay. Basically the law of thermodynamics | 15:14:20 22 | A. I don't know. |
| 15:12:12 23 | basically states that it goes from from higher | 15:14:20 23 | Q. Okay. Do you know what the average |
| | energy to lower energy; correct? That's probably the | 15:14:25 24 | temperature of a patient is when they're under |
| 15:12:17 24 | | 0.5 | anasthasia if thay hasama hymathaymia tha yanga? Da |
| 15:12:17 24 15:12:20 25 | wrong term to use, but to that effect. | 15:14:29 25 | anesthesia if they become hypothermic, the range? Do |
| | wrong term to use, but to that effect. STIREWALT & ASSOCIATES | 15:14:29 45 | STIREWALT & ASSOCIATES |
| | | 15:14:29 45 | |

| | CC | CASE 0:15-md-02666-JNE-DTS Doc NFIDENTIAL SUBJECT TO PROTECTIVE ORDER | : 823-8 | Filed 00 | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDE |
|--|-----------------------|--|--|------------|--|
| | vou kno | 249 | 1 | ^ | 251 |
| 15:14:33 1 15:14:34 2 | - | w what the range would be? | 15:17:12 | | If you're asking whether I've ever seen a |
| • | now. | You're talking the body core temperature | 15:17:14 2 15:17:17 3 | - | nstrument reading, I've seen a lot of them. I mean, like, do you have |
| 4 | _ | Yes. | 1 | Q. | Do you have kids? |
| 5:14:36 4 | Q. A. | I don't know that number. | 15:17:22 4 | Λ | Two daughters. |
| 5:14:37 5 | | Okay. If the core temperature is 36 degrees | | | You ever take a temperature of a kid and the |
| 5:14:39 b | | re blowing 33 degree 32 to 33 degree air on | | | neter says, like, it's 106 point something, |
| 5:15:06 / 5:15:10 8 | - | , would you agree with me that it would have a | | | ke, this can't be right, let me check it |
| • | cooling 6 | • | 15:17:30 8 15:17:32 9 | again? | te, this can't be right, let me check it |
| i:15:13 9 i:15:18 10 | _ | Well 36 degree core, 33 degree skin | 15:17:32 10 | _ | I never did that. |
| 5:15:18 10 | | s, according to the discussion, that there | 15:17:32 10 | Q. | Huh? Never happened to you? |
| i:15:24 11 i:15:28 12 | | e heat transfer and cool cool the surface | 15:17:34 11 | Q. А. | No. |
| 5:15:34 13 | slightly, | | 15:17:34 12 | | If I took the temperature in here and it |
| i:15:34 1 3 i:15:34 14 | | I'm not saying 33 degree skin, I'm saying 33 | 15:17:35 13 | | t to be, like, 105 degrees Fahrenheit we'd say, |
| i:15:34 14 i:15:39 15 | | | 15:17:37 14 | | |
| | degree a | | _ | | ng's wrong with that thermometer; correct? |
| :15:39 16 :15:40 17 | | Thirty 33 degree air on a 36 degree body, would you | 15:17:43 16 15:17:44 17 | A. | I've already agreed |
| :15:40 17 | | th me that would cause a cooling effect, | 15:17:44 17 15:17:45 18 | 0 | I've already answered that question. Okay. Okay. So it's your understanding |
| i:15:43 10 i:15:47 19 | _ | g to the second law of thermodynamics? | 15:17:45 10 | | air coming out of the blower's 43 degrees |
| :15:47 19 | | Once again, 36 degree body core temperature, | 15:17:50 19 15:17:58 20 | | and you measure the air coming out of the |
| i:16:00 21 | Α. | Office again, 30 degree body core temperature, | 15:17:58 20 15:18:01 21 | | 2 to 33 degrees Celsius. Did you not think |
| i:16:00 21 | Q. | Yeah. | 15:18:01 21 15:18:05 22 | - | is for a second and what that means? |
| i:16:00 22 | Q. A. | 33 degree Centigrade skin temperature. | 15:18:05 22 | | Sure, I thought about it. |
| :16:01 23 | Q. | No. 33 degree | 15:18:09 23 | Α. | MR. GOSS: Objection, vague. |
| :16:08 25 | Q. Α. | Cool air temperature. | 15:18:10 24 | Q. | What did you come up with? |
| 5:16:08 ZJ | Α. | STIREWALT & ASSOCIATES | 15:18:11 23 | Q. | STIREWALT & ASSOCIATES |
| | | 1-800-553-1953 info@stirewalt.com | | 1 | -800-553-1953 info@stirewalt.com |
| | | NRIDENTIAL - SUBJECT TO PROTECTIVE ORDER | + | | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDE |
| | | 250 | | CO | NAME OF THE PROTECTIVE ORDER 252 |
| 5:16:08 1 | Q. | cool air temperature. | 15:18:14 1 | Α. | There's heat transfer from the blower where |
| i:16:09 2 | д . | All right. | 15:18:18 2 | | egrees Centigrade is measured, all along the |
| :16:10 3 | 7 | MR. GOSS: I'm just going to object that | 15:18:22 3 | | the blanket. There's heat transfer from the |
| i:16:11 4 | we're no | t offering him for opinions in heat transfer | 15:18:27 | | probably by conduction to the skin, as well |
| i:16:16 5 | | othermia. If you know, you can answer. | 15:18:31 5 | | nvection through these pores. So the 32 to 33 |
| _ | | As you posed it, there would be a cooling | 15:18:37 | - | that I measured does not surprise me. |
| 5:16:21 b 5:16:23 7 | effect. | As you posed it, there would be a cooling | 15:18:40 7 | Q. | Okay. So you stand by that number. |
| 5:16:23 | | Okay. Now are you certain about your | 15:18:46 | A. | I do. |
| i:16:31 9 | | ture measurements in this case? | 15:18:47 | Q. | And that number is as accurate as the rest |
| :16:34 10 | • | We would now be referring | 15:18:49 10 | | imbers in your report. |
| :16:36 11 | , | Which case? | 15:18:50 11 | | Well let me speak to accuracy, if I may. I |
| :16:37 12 | Q. | To any of the all the temperature | 15:18:54 12 | | - One thing I do is use symbol size to |
| i:16:39 13 | | ements you took in this case. | 15:18:57 13 | - | accuracy, and you notice that I haven't used |
| :16:39 13 | | Well the instrument, my thermocouple has | 15:19:00 14 | | symbols to give an impression of high |
| :16:47 15 | | proximately plus or minus one degree basic | 15:19:03 15 | - | . I went back to a zero on the horizontal |
| 5:16:52 16 | | nd associated with it. | 15:19:03 16 | - | e're looking at Figure 9 zero on the |
| i:16:52 1 7 | | But there's something called common sense; | 15:19:08 17 | | al axis and remeasured it a couple times so |
| :16:56 18 | | Engineering common sense. | 15:19:13 18 | | see the group of three measurements up there |
| :16:58 19 | 2211 2001 | Sometimes your instruments read something, | 15:19:16 19 | - | 's probably experimental error there. So I |
| :17:00 20 | vou're li | ke, that just can't be right. Did that ever | 15:19:16 13 | | stand by the shape of this curve, the |
| :17:00 20 | - | to you before? | 15:19:23 20 | | with the vertical axis being in the vicinity |
| | | I Certainly, but I don't know what | 15:19:29 21 | - | 33 Centigrade, and I would certainly stand by |
| .17:0E 22 | | e that has. | 15:19:34 22 15:19:41 23 | | this graph shows the air temperature dropping |
| | | I'll get there in a second. But you | 15:19:41 23 15:19:44 24 | | this graph shows the air temperature dropping thin one degree of room temperature within: |
| i:17:07 23 | | | 15:19:44 | OII LO WIL | .iiii one ucqiee oi room temperature withiii |
| 5:17:07 23 5:17:08 24 | Q. | | 45.40.45 25 | about 60 | - |
| 5:17:05 22 5:17:07 23 5:17:08 24 5:17:09 25 | Q. | appened to you before; correct? | 15:19:48 25 | about 60 | millimeters. |
| 5:17:07 23 5:17:08 24 | Q. That's h | | 15:19:48 25 | | - |

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| | 253 | | 255 |
| 15:19:50 | Q. Okay. By the way, was the downflow | 15:22:34 | Q. Yeah. |
| 15:19:54 2 | generator on when you measured this? | 15:22:35 | A. I think it's reasonable. |
| 15:19:56 | A. No. This measurement was done just with a | 15:22:36 | Q. And same with the numbers you've taken on |
| 15:19:58 4 | blanket on a benchtop, no downflow generator. | 15:22:38 4 | Figure 12; correct? |
| 15:20:02 5 | Q. Okay. All right. Now is it possible | 15:22:40 5 | A. Let me look at that. These two were two |
| 15:20:11 6 | Withdraw that. | 15:22:43 6 | different experiments, they're and done with two |
| 15:20:11 7 | So there was no downward airflow that would | 15:22:47 7 | different instruments. On these, due to due to |
| 15:20:29 | affect this temperature at all. | 15:23:03 | some differences that all right, that I'll explain |
| 15:20:30 9 | A. Please take a look at Figure 8 b, and what | 15:23:06 | to you that in the case of Figure 9 I had the |
| 15:20:33 10 | you're seeing here is the blanket is horizontal, the | 15:23:09 10 | thermocouple on a on a lab stand with a drive so |
| 15:20:37 11 | jets are upward, and there was no downflow. This was | 15:23:16 11 | that I could position it accurately. So I have a |
| 15:20:41 12 | a benchtop experiment, not an experiment in the | 15:23:18 12 | better confidence in the position of the of the |
| 15:20:41 13 | Q. Okay. | 15:23:22 13 | temperature in that case than I do in these Figures 12 |
| 15:20:44 14 | A in the rig. | 15:23:28 14 | and 13, which were handheld. Handheld of course there |
| 15:20:45 15 | Q. And the ambient temperature at that time was | 15:23:32 15 | can be some motion. |
| 15:20:47 16 | what? | 15:23:33 16 | Q. Okay. |
| 15:20:48 17 | A. That's indicated on Figure 9 as 22 Celsius. | 15:23:34 17 | A. So there is a difference, but other than |
| 15:20:53 18 | Q. Twenty-two Celsius. | 15:23:37 18 | that I think the accuracies are similar. |
| 15:20:54 19 | Why is the ambient temperature so much | 15:23:40 19 | Q. Okay. Let's assume that the air the air |
| 15:20:56 20 | higher than the other other results, other ambient | 15:23:49 20 | jets were between 41 to 43 degrees Celsius. |
| 15:20:59 21 | temperatures? | 15:23:52 21 | A. That's not what the measurement shows. |
| 15:21:00 22 | A. It was a hot summer's evening when this test | 15:23:54 22 | Q. I understand that, but I'm asking you to |
| 15:21:03 23 | was done. | 15:23:55 23 | make an assumption. |
| 15:21:05 24 | Q. Okay. In In May? | 15:23:57 24 | Do you believe that would change the results |
| 15:21:09 25 | A. This test was done | 15:23:58 25 | of your testing? |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 254 | | 256 |
| 15:21:11 1 | Q. Either April or May. | 15:24:00 | MR. GOSS: Objection, calls for |
| 15:21:13 | A. It was in May. | 15:24:02 2 | speculation, improper hypothetical. |
| 15:21:15 | Q. So it wasn't summer yet. | 15:24:04 3 | A. I don't know what results you're referring |
| 15:21:16 4 | A. Well, all right. Hot spring evening. | 15:24:06 4 | to. |
| 15:21:17 5 | Q. Okay. And you stand by the accuracy of | 15:24:07 5 | Q. Well if you have air coming out of the jets |
| 15:21:20 6 | these numbers as much as you stand by all the other | 15:24:10 6 | at 41 to 43 degrees Celsius, you agree that it |
| 15:21:23 7 | data points that you have in your report; correct? | 15:24:15 7 | contains more energy that will affect the environment |
| 15:21:25 | MR. GOSS: Object to form, vague. | 15:24:18 | than air coming out of the jets between 32 to 33 |
| 15:21:28 | A. I think you've already asked me that and | 15:24:22 9 | degrees Celsius. Do you agree with that? |
| 15:21:32 10 | I've answered it, that I have confidence in these data | 15:24:23 10 | MR. GOSS: Same objections. |
| 15:21:36 11 | shown on the graph in Figure 9. | 15:24:28 11 | A. It's hotter, but I have to point out that |
| 15:21:37 12 | Q. I'm saying based on your I mean you have | 15:24:32 12 | the air jets coming out of the Bair Hugger could not |
| 15:21:40 13 | you have confidence in all the temperature settings | 15:24:35 13 | be 43 degrees, that's the setting of the blower which |
| 15:21:43 14 | or temperature measurements you've done in your | 15:24:39 14 | is located a distance away with a hose in between, and |
| | report; correct? | 15:24:44 15 | it's already been discussed that there is heat tra |
| 15:21:46 15 | A 7 1 | 15:24:47 16 | heat loss all along the hose, and could be conduction |
| 15:21:46 16 | A. I do. | 1 47 | loss from the Bair Hugger blanket directly to the skin |
| 15:21:46 16 15:21:47 17 | Q. That they're accurate; correct? | 15:24:52 17 | |
| 15:21:46 16 | Q. That they're accurate; correct?A. Well you have to define what "accurate" is. | 15:24:52 17 15:24:56 18 | which would reduce the temperature further in the |
| 15:21:46 | Q. That they're accurate; correct? | | which would reduce the temperature further in the plenum inside the Bair blanket. So I don't see a |
| 15:21:46 16 15:21:47 17 15:21:49 18 | Q. That they're accurate; correct?A. Well you have to define what "accurate" is. | 15:24:56 18 | · |
| 15:21:46 | Q. That they're accurate; correct?A. Well you have to define what "accurate" is.There's always an error bar, but within that | 15:24:56 18 15:24:58 19 | plenum inside the Bair blanket. So I don't see a |
| 15:21:46 | Q. That they're accurate; correct? A. Well you have to define what "accurate" is. There's always an error bar, but within that definition I believe that these measures | 15:24:56 18 15:24:58 19 15:25:01 20 | plenum inside the Bair blanket. So I don't see a discrepancy here between my measured 32 or 33 degrees |
| 15:21:46 | Q. That they're accurate; correct? A. Well you have to define what "accurate" is. There's always an error bar, but within that definition I believe that these measures Q. I'll give you plus or minus two degrees. | 15:24:56 18 15:24:58 19 15:25:01 20 15:25:06 21 | plenum inside the Bair blanket. So I don't see a discrepancy here between my measured 32 or 33 degrees at the jet exit and the 43 degrees that is generated |
| 15:21:46 | Q. That they're accurate; correct? A. Well you have to define what "accurate" is. There's always an error bar, but within that definition I believe that these measures Q. I'll give you plus or minus two degrees. MR. GOSS: You can testify to what your | 15:24:56 | plenum inside the Bair blanket. So I don't see a discrepancy here between my measured 32 or 33 degrees at the jet exit and the 43 degrees that is generated at the the Bair Hugger blower. |
| 15:21:46 16 15:21:47 17 15:21:49 18 15:21:51 19 15:21:54 20 15:21:56 21 15:22:00 22 15:22:02 23 | Q. That they're accurate; correct? A. Well you have to define what "accurate" is. There's always an error bar, but within that definition I believe that these measures Q. I'll give you plus or minus two degrees. MR. GOSS: You can testify to what your confidence level is in the temperature. I think | 15:24:56 18 15:24:58 19 15:25:01 20 15:25:06 21 15:25:11 22 15:25:13 23 | plenum inside the Bair blanket. So I don't see a discrepancy here between my measured 32 or 33 degrees at the jet exit and the 43 degrees that is generated at the the Bair Hugger blower. Q. Okay. So just so I understand you, you |
| 15:21:46 16 15:21:47 17 15:21:49 18 15:21:51 19 15:21:54 20 15:21:56 21 15:22:00 22 15:22:02 23 15:22:04 24 | Q. That they're accurate; correct? A. Well you have to define what "accurate" is. There's always an error bar, but within that definition I believe that these measures Q. I'll give you plus or minus two degrees. MR. GOSS: You can testify to what your confidence level is in the temperature. I think that's what he's asking you. | 15:24:56 18 15:24:58 19 15:25:01 20 15:25:06 21 15:25:11 22 15:25:13 23 15:25:19 24 | plenum inside the Bair blanket. So I don't see a discrepancy here between my measured 32 or 33 degrees at the jet exit and the 43 degrees that is generated at the the Bair Hugger blower. Q. Okay. So just so I understand you, you believe there's conduction a transfer of heat by |
| 15:21:46 16 15:21:47 17 15:21:49 18 15:21:51 19 15:21:54 20 15:21:56 21 15:22:00 22 15:22:02 23 | Q. That they're accurate; correct? A. Well you have to define what "accurate" is. There's always an error bar, but within that definition I believe that these measures Q. I'll give you plus or minus two degrees. MR. GOSS: You can testify to what your confidence level is in the temperature. I think | 15:24:56 18 15:24:58 19 15:25:01 20 15:25:06 21 15:25:11 22 15:25:13 23 | plenum inside the Bair blanket. So I don't see a discrepancy here between my measured 32 or 33 of at the jet exit and the 43 degrees that is generated at the the Bair Hugger blower. Q. Okay. So just so I understand you, you |

| | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 823-8 | Filed 09/12/17 Page 67 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|---|--|---|---|
| | 257 | | 259 |
| 15:25:25 1 | patient. | 15:27:48 1 | warming, the air coming out of the blanket has to be |
| 15:25:25 2 | A. I think it's possible. The Bair Hugger | 15:27:50 2 | warmer than the patient or it would not do what it's |
| 15:25:27 | blanket is in contact with the patient. There's | 15:27:53 | supposed to do. Do you agree? |
| 5:25:30 4 | heating by airflow through the holes, but there may be | 15:27:55 4 | MR. GOSS: I'm just going to object that |
| 5:25:34 5 | cases where the holes are occluded and the plastic is | 15:27:56 5 | we're not offering him for any opinions on heat |
| 5:25:37 6 | against the skin, and in that case you could have | 15:27:58 6 | transfer or normothermia. |
| 15:25:39 7 | conductive heat transfer as well. | 15:28:02 7 | If you understand the question, you can |
| 15:25:42 | Q. Okay. So you're saying within one millime | 15:28:04 | answer it. |
| 5:25:44 | | 15:28:05 | Q. We're talking straight engineering here, |
| 5:25:45 10 | What do you think the temperature of the | 15:28:06 10 | doctor. |
| 5:25:46 11 | actual Bair Hugger blanket is? | 15:28:07 11 | A. My answer to that is that the Bair Hugger is |
| 5:25:49 12 | A. You mean the internal temperature. | 15:28:11 12 | described as a forced-air patient-warming blanket, but |
| 5:25:52 13 | Q. Internal or external. The external that's | 15:28:18 13 | as we just discussed, may be part forced air and part |
| 5:25:52 13 5:25:55 14 | touching that's outside that's not on a hole. | 15:28:18 14 | conduction, and therefore the temperature of the jets |
| | | | |
| 5:25:58 15 | A. Well my measurement is essentially right | 15:28:27 15 | coming out the hole is not the only thing that |
| 5:26:02 16 | over the hole. Now I did not measure the temperature, | 15:28:29 16 | determines the heat transfer and the temperature rise |
| 5:26:04 17 | so you're asking me to speculate. I did not measure | 15:28:34 17 | that the blanket causes. |
| 5:26:07 18 | the temperature of the surface of the blanket, but | 15:28:40 18 | Q. Question. You agree with me that blowing 43 |
| 5:26:11 19 | so I'm really not supposed to speculate. | 15:28:44 19 | degree Celsius air on a 36 degree body is going to |
| 5:26:13 20 | Q. Well let's go back from | 15:28:49 20 | cause a cooling effect on that body; correct? |
| 5:26:16 21 | I mean the first thing you're doing is like | 15:28:52 21 | MR. GOSS: Same objections; calls for |
| 5:26:19 22 | to have a good scientific study you have to have a | 15:28:54 22 | speculation, lack of foundation, outside the scope of |
| 5:26:27 23 | proper understanding of how the system works; correct? | 15:28:56 23 | his opinions. |
| 5:26:31 24 | A. What system? | 15:28:57 24 | Q. I assume you understand the second law of |
| 5:26:32 25 | Q. Like in the Bair Hugger. To do a proper | 15:28:59 25 | thermodynamics; correct? |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 258 | | 260 |
| 5:26:34 | study on the Bair Hugger device you should know how | 15:29:02 | A. I didn't answer your |
| • | stady on the Ban Hagger device you should know how | 10.20.02 | |
| | the Bair Hugger works: correct? | 15:20:03 | · |
| | the Bair Hugger works; correct? | 15:29:03 2 | You've now two questions. |
| 5:26:38 3 | A. Yes. | 15:29:03 | You've now two questions. Q. Okay. |
| 5:26:38 3 5:26:39 4 | A. Yes.Q. Okay. And does it make sense to you, as an | 15:29:03 3 15:29:04 4 | You've now two questions. Q. Okay. A. Which one do you want me to answer? |
| 5:26:38 3 5:26:39 4 5:26:45 5 | A. Yes.Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain | 15:29:03 3 15:29:04 4 15:29:06 5 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. |
| 5:26:38 3 5:26:39 4 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air | 15:29:03 3 15:29:04 4 15:29:06 5 15:29:07 6 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of |
| 5:26:38 3 5:26:39 4 5:26:45 5 5:26:48 6 5:26:53 7 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? | 15:29:03 3 15:29:04 4 15:29:06 5 15:29:07 6 15:29:08 7 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? |
| 5:26:38 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? Does that make engineering sense to you? | 15:29:03 3 15:29:04 4 15:29:06 5 15:29:07 6 15:29:08 7 15:29:10 8 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? A. I think so. |
| 5:26:38 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? Does that make engineering sense to you? A. It could make engineering sense if you also | 15.29.03 3 15.29.04 4 15.29.06 5 15.29.07 6 15.29.08 7 15.29.10 8 15.29.10 9 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? A. I think so. Q. And that this is straight up heat transfer, |
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| 226:38 3 426:39 4 5:26:48 6 6:26:48 6 7 6:26:57 8 6:27:04 9 6:27:09 11 6:27:09 11 6:27:12 12 6:27:15 14 6:27:15 14 6:27:21 16 6:27:21 16 6:27:21 17 6:27:23 18 6:27:23 18 6:27:29 20 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? Does that make engineering sense to you? A. It could make engineering sense if you also took into account the conductive heat transfer in cases in locations where the blanket is touching the skin. Q. Well if that's the case you're just looking at conduction heat transfer, wouldn't it have been better just to like put the holes facing up instead of down so you don't get any of the cooling effect? A. I MR. GOSS: Object to form. A. What I'm suggesting here is that the Bair Hugger blanket may be not purely forced-air heating, | 15.29.03 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? A. I think so. Q. And that this is straight up heat transfer, correct, enthalpy goes from a higher from a hotter device to a colder device or material; correct? A. You shouldn't be using the second law to talk about heat transfer, you should be using the conduction, convection, radiation laws of heat transfer, in my opinion. Q. Okay. Let's talk Which laws, the conduction? A. Conduction, convection and radiation laws of heat transfer. Q. Okay. If you blow 43 degree air or |
| 5:26:38 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? Does that make engineering sense to you? A. It could make engineering sense if you also took into account the conductive heat transfer in cases in locations where the blanket is touching the skin. Q. Well if that's the case you're just looking at conduction heat transfer, wouldn't it have been better just to like put the holes facing up instead of down so you don't get any of the cooling effect? A. I MR. GOSS: Object to form. A. What I'm suggesting here is that the Bair Hugger blanket may be not purely forced-air heating, but part forced air by jets and part conductive. | 15.29.03 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? A. I think so. Q. And that this is straight up heat transfer, correct, enthalpy goes from a higher from a hotter device to a colder device or material; correct? A. You shouldn't be using the second law to talk about heat transfer, you should be using the conduction, convection, radiation laws of heat transfer, in my opinion. Q. Okay. Let's talk Which laws, the conduction? A. Conduction, convection and radiation laws of heat transfer. Q. Okay. If you blow 43 degree air or sorry, forty or 33 degree air, we'll take the |
| 5:26:38 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? Does that make engineering sense to you? A. It could make engineering sense if you also took into account the conductive heat transfer in cases in locations where the blanket is touching the skin. Q. Well if that's the case you're just looking at conduction heat transfer, wouldn't it have been better just to like put the holes facing up instead of down so you don't get any of the cooling effect? A. I MR. GOSS: Object to form. A. What I'm suggesting here is that the Bair Hugger blanket may be not purely forced-air heating, but part forced air by jets and part conductive. Q. Okay. I agree with that actually. I agree | 15.29.03 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? A. I think so. Q. And that this is straight up heat transfer, correct, enthalpy goes from a higher from a hotter device to a colder device or material; correct? A. You shouldn't be using the second law to talk about heat transfer, you should be using the conduction, convection, radiation laws of heat transfer, in my opinion. Q. Okay. Let's talk Which laws, the conduction? A. Conduction, convection and radiation laws of heat transfer. Q. Okay. If you blow 43 degree air or sorry, forty or 33 degree air, we'll take the higher number of your numbers, on a 36 degree patient |
| 5:26:38 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? Does that make engineering sense to you? A. It could make engineering sense if you also took into account the conductive heat transfer in cases in locations where the blanket is touching the skin. Q. Well if that's the case you're just looking at conduction heat transfer, wouldn't it have been better just to like put the holes facing up instead of down so you don't get any of the cooling effect? A. I MR. GOSS: Object to form. A. What I'm suggesting here is that the Bair Hugger blanket may be not purely forced-air heating, but part forced air by jets and part conductive. Q. Okay. I agree with that actually. I agree with that 100 percent. | 15.29.03 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? A. I think so. Q. And that this is straight up heat transfer, correct, enthalpy goes from a higher from a hotter device to a colder device or material; correct? A. You shouldn't be using the second law to talk about heat transfer, you should be using the conduction, convection, radiation laws of heat transfer, in my opinion. Q. Okay. Let's talk Which laws, the conduction? A. Conduction, convection and radiation laws of heat transfer. Q. Okay. If you blow 43 degree air or sorry, forty or 33 degree air, we'll take the higher number of your numbers, on a 36 degree patient it would be a cooling effect. Do you agree? |
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| 5:26:38 3 5:26:39 4 5:26:45 5 5:26:48 6 5:26:53 7 5:26:57 8 | A. Yes. Q. Okay. And does it make sense to you, as an engineer, that if you're trying to maintain normothermia of 36 degrees Celsius that you have air jets coming out between 32 to 33 degrees Celsius? Does that make engineering sense to you? A. It could make engineering sense if you also took into account the conductive heat transfer in cases in locations where the blanket is touching the skin. Q. Well if that's the case you're just looking at conduction heat transfer, wouldn't it have been better just to like put the holes facing up instead of down so you don't get any of the cooling effect? A. I MR. GOSS: Object to form. A. What I'm suggesting here is that the Bair Hugger blanket may be not purely forced-air heating, but part forced air by jets and part conductive. Q. Okay. I agree with that actually. I agree with that 100 percent. But if you're going to do warming by | 15.29.03 3 15.29.04 4 15.29.06 5 15.29.07 6 15.29.10 8 15.29.10 9 15.29.12 10 15.29.12 11 15.29.19 12 15.29.24 13 15.29.26 14 15.29.29 15 15.29.33 16 15.29.33 16 15.29.31 18 15.29.41 19 15.29.41 20 15.29.41 20 15.29.41 20 15.29.42 21 15.29.49 22 15.29.52 23 15.29.52 23 15.29.54 24 | You've now two questions. Q. Okay. A. Which one do you want me to answer? Q. Let's answer the second one. You understand the second law of thermodynamics; correct? A. I think so. Q. And that this is straight up heat transfer, correct, enthalpy goes from a higher from a hotter device to a colder device or material; correct? A. You shouldn't be using the second law to talk about heat transfer, you should be using the conduction, convection, radiation laws of heat transfer, in my opinion. Q. Okay. Let's talk Which laws, the conduction? A. Conduction, convection and radiation laws of heat transfer. Q. Okay. If you blow 43 degree air or sorry, forty or 33 degree air, we'll take the higher number of your numbers, on a 36 degree patient it would be a cooling effect. Do you agree? A. Purely doing |

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|---|--|---|---|
| 15:29:55 | A. Purely due to the air jets that would seem | 15:33:05 | Q. Did you do any imaging with use of the |
| 15:29:59 2 | to be the case. | 15:33:07 2 | schlieren mirror like the one that's in the middle? |
| 15:30:01 3 | Q. Okay. And And you were provided no | 15:33:13 | Like where the middle circle is. Do you know what I'm |
| 15:30:15 4 | studies from 3M which they conducted of the | 15:33:17 4 | asking you? |
| 15:30:17 5 | temperature underneath the Bair Hugger blanket when | 15:33:18 5 | A. I understand. I understand. |
| 15:30:19 6 | they've measured it, were you? | 15:33:19 6 | Give me a moment, please. |
| 15:30:21 7 | A. I'm not aware of such studies. | 15:33:24 7 | Q. And if you need to refer to the hundred and |
| 15:30:22 8 | Q. Okay. Now if the temperature's coming out | 15:33:26 | some pictures that weren't produced, feel free. |
| 15:30:39 | at, say, 41 degrees Celsius, just make that | 15:33:33 9 | MR. GOSS: Are you going to show him any |
| 15:30:42 10 | assumption, the jets are putting out 41 degree Celsius | 15:33:34 10 | pictures? |
| 15:30:45 11 | air, okay? | 15:33:35 11 | MR. ASSAAD: I don't have them, but I'm |
| 15:30:47 12 | A. All right. | 15:33:36 12 | sure you do. |
| 15:30:47 13 | Q. Would that affect the results of your | 15:33:37 13 | MR. GOSS: You got at least 80-some odd, |
| 15:30:49 14 | testing? | 15:33:40 14 | last I checked. |
| 15:30:52 15 | MR. GOSS: Objection, calls for | 15:33:42 15 | A. In order to answer that question I'd go back |
| 15:30:54 16 | speculation. | 15:33:46 16 | and study the logbook and my notations on what we did. |
| 15:30:56 17 | A. Which results would you be referring to? | 15:33:51 17 | The intention was to do all three of those circles |
| 15:30:59 18 | Q. Would it Would it change the the | 15:33:54 18 | shown in Figure 1. |
| 15:31:08 19 | schlieren imaging for Figure 10 a? | 15:33:56 19 | Q. Okay. |
| 15:31:13 20 | MR. GOSS: Same objection. | 15:33:57 20 | A. Whether we actually got there or not I |
| 15:31:15 21 | A. In order to see if I understand your | 15:34:02 21 | know, for example, the lower one we tried and |
| 15:31:18 22 | question: If the temperature, instead of 33 were 41, | 15:34:04 22 | unfortunately didn't get a useful result in that |
| 15:31:22 23 | would it change the results in Figure 10. | 15:34:10 23 | instance. I am unsure about the circle in the middle. |
| 15:31:26 24 | Q. a. | 15:34:16 24 | I would have to check before I could give you a |
| 15:31:27 25 | A. 10 a. | 15:34:18 25 | definitive answer on the basically looking at the |
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| 15:31:31 1 | I don't think I'm able to give a definitive | 15:34:21 | side of the mannequin. So I'm I can't give a |
| 15:31:33 2 | answer without doing that experiment. | 15:34:26 2 | definitive answer right now. |
| 15:31:35 | Q. Okay. So sitting here today you don't know | 15:34:28 | Q. Okay. And the purpose of doing the side |
| 15:31:37 4 | one way or another whether or not increasing the | 15:34:40 4 | the intermediate was to check on what's going on on |
| 15:31:40 5 | temperature by about 25 percent would have an effect | 15:34:43 5 | the side of the operating room table; correct? |
| 15:31:46 6 | on the schlieren imaging in figure a. | 15:34:47 6 | A. Yes. |
| 15:31:49 7 | A. Well remember that it's the temperature of | 15:34:47 7 | Q. Okay. Let's go to Figure 13. |
| 15:31:51 | the jets that you're referring to, and what you're | 15:36:11 | A. Which? Yeah, Figure 13 of my |
| 15:31:58 9 | looking at here is the thermal effect or the thermal | 15:36:14 9 15:36:18 10 | Q. Figure 13 in Exhibit 2. |
| 15:32:01 10 15:32:06 11 | boundary layer on top of the Bair Hugger blanket, a | 15:36:18 10 15:36:23 11 | A report. Figure 13. Figure 13. |
| 15:32:06 1 1 15:32:11 12 | cotton blanket, and a drape. So it's what you're | 15:36:23 11 | Q. Now you measured temperatures underneath the |
| 15:32:11 12 15:32:16 13 | asking me to speculate on is more complicated than the question would seem to imply. | 15:36:30 1 2 15:36:32 13 | operating room table of 28 degrees between 26 to 28 |
| 15:32:19 14 | Q. Okay. So sitting here today you can't | 15:36:37 14 | degrees; correct? |
| 15:32:21 15 | answer that question. | 15:36:39 15 | A. 26, 28, 27, correct. |
| 15:32:22 16 | A. No. | 15:36:41 16 | Q. Okay. And this was done on the 15th, you |
| 15:32:22 17 | Q. Okay. Now going back to that picture, | 15:36:44 17 | said, of May? |
| 15:32:26 18 | you're did you do any schlieren Hold on. | 15:36:47 18 | A. Let me check, please. That's on page |
| 15:32:39 19 | Go to page 4 of your report. | 15:36:51 19 | page 18 of my logbook is where you see that, so that's |
| 15:32:46 20 | A. Yes. | 15:36:56 20 | May 15th. |
| 15:32:52 21 | Q. The image of Figure 10 a is basically where | 15:36:57 21 | Q. Okay. And where were these measurements |
| 15:32:55 22 | you have the schlieren mirror right above the patient | 15:36:59 22 | taken, like where underneath the table? |
| 15:33:00 23 | as shown in like the top circle there; correct? In | 15:37:02 23 | A. These measurements were underneath the |
| 15:33:04 24 | Figure 1. | 15:37:04 24 | arm-board. |
| 15:33:04 25 | A. That is correct. | 15:37:05 25 | Q. Underneath the arm-board. |
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| 66 of 89 she | 1-800-553-1953 info@stirewalt.com Page 261 to | | 1-800-553-1953 info@stirewalt.com |

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| | 265 | | 267 |
| 15:37:07 | A. Yes. | 15:39:22 | ask him a question. |
| 15:37:08 2 | Q. Okay. Now | 15:39:23 2 | MR. ASSAAD: Okay. |
| 15:37:09 | A. Because | 15:39:27 3 | Q. Who put the drapes on in Figure 11 a? |
| 15:37:09 4 | Q. Okay. Go ahead. I'm sorry. | 15:39:29 4 | A. My assistants. |
| 15:37:11 5 | A. If you looked at this from the top, there is | 15:39:31 5 | Q. Okay. Why |
| 15:37:13 | no there's nothing if you move toward the torso and | 15:39:32 6 | Why do they look different than what's in |
| 15:37:16 7 | the leg, so these measurements have to be under the | 15:39:35 7 | Figure 12 and 13, to be quite honest? |
| 15:37:19 8 | arm-board. | 15:39:40 | A. Well what you're seeing in 13 is the drape |
| 15:37:19 | Q. Okay. And how far | 15:39:43 | over the body and the arm-boards, and I did not even |
| 15:37:34 10 | Did the drapes touch the floor? | 15:39:46 10 | depict which I might have, but I did not depict the |
| 15:37:35 11 | A. No. | 15:39:51 11 | drape over the body in that case. So Figure 13 |
| 15:37:36 12 | Q. Okay. Then I'm a little bit confused, | 15:39:55 12 | doesn't pertain. |
| 15:37:38 13 | before I get to the next question. If you go to page | 15:39:56 13 | But in the case of your question regarding |
| 15:37:41 14 | 12 of Exhibit 1, not Exhibit 2, Exhibit 1. | 15:39:59 14 | Figures 12 and Figure 11 a, I don't have an |
| 15:37:48 15 | A. This one [indicating]. | 15:40:03 15 | explanation for the discrepancy. |
| 15:37:49 16 | Q. Yes. I see something touching the floor | 15:40:06 16 | Q. Okay. Well is it in your notes? |
| 15:37:54 17 | there, I don't know what that is. Is that a drape or | 15:40:22 17 | A. You'll have to give me a moment to check. |
| 15:37:57 18 | is that some other type of Exhibit Figure 11, | 15:40:59 18 | (Witness reviewing exhibits.) Figure 11 that was |
| 15:38:00 19 | Exhibit Figure Exhibit Figure 11 a of Exhibit | 15:41:43 19 | subsequently removed was one of the very last things |
| 15:38:04 20 | 1. Are those drapes next to the feet of the person? | 15:41:49 20 | that we did May 18th. I'm trying to find the date |
| 15:38:07 21 | A. Yes. | 15:41:55 21 | corresponding to Figure 12 because since that's not |
| 15:38:08 22 | Q. And it looks like they're touching the | 15:42:01 22 | annotated with an image number, it's I'm going to |
| 15:38:10 23 | floor; correct? | 15:42:06 23 | have to find the notation where I took those |
| 15:38:11 24 | A. In that case, yes. | 15:42:10 24 | measurements. So if you'll bear with me, please. |
| 15:38:12 25 | Q. Okay. So you changed the drape style | 15:42:28 25 | Here we go. May 15. I don't see an |
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| 15:38:13 | | 15:43:12 1 | |
| 15:38:13 1 15:38:17 2 | 266 | 15:43:12 1 15:43:16 2 | 268 |
| _ | 266 throughout the experiment? | _ | 268 explanation in the logbook for a difference in the |
| 15:38:17 2 | 266 throughout the experiment? MR. GOSS: Object to form. | 15:43:16 2 | 268 explanation in the logbook for a difference in the position of the drape with respect to the floor. |
| 15:38:17 2 15:38:23 3 | throughout the experiment? MR. GOSS: Object to form. A. "Drape style." | 15:43:16 2 15:43:18 3 | explanation in the logbook for a difference in the position of the drape with respect to the floor. Q. Okay. And by the way, was was the |
| 15:38:17 2 15:38:23 3 15:38:27 4 | throughout the experiment? MR. GOSS: Object to form. A. "Drape style." Q. Like Like the drapes | 15:43:16 2 15:43:18 3 15:43:22 4 | explanation in the logbook for a difference in the position of the drape with respect to the floor. Q. Okay. And by the way, was was the airflow the downflow generator on or off for Figure |
| 15:38:17 2 15:38:23 3 15:38:27 4 15:38:28 5 | throughout the experiment? MR. GOSS: Object to form. A. "Drape style." Q. Like Like the drapes I mean here you have the drapes going, if | 15:43:16 2 15:43:18 3 15:43:22 4 15:43:25 5 | explanation in the logbook for a difference in the position of the drape with respect to the floor. Q. Okay. And by the way, was was the airflow the downflow generator on or off for Figure 11 a? A. Well that was the discrepancy that caused it to be removed. My impression when we did the test was |
| 15:38:17 2 15:38:23 3 15:38:27 4 15:38:28 5 15:38:31 6 | throughout the experiment? MR. GOSS: Object to form. A. "Drape style." Q. Like Like the drapes I mean here you have the drapes going, if you look at Figure 12, about halfway a little less than halfway between the top of the table and the floor; correct? | 15:43:16 2 15:43:18 3 15:43:22 4 15:43:25 5 15:43:26 6 | explanation in the logbook for a difference in the position of the drape with respect to the floor. Q. Okay. And by the way, was was the airflow the downflow generator on or off for Figure 11 a? A. Well that was the discrepancy that caused it to be removed. My impression when we did the test was the downflow generator was on. It wouldn't make sense |
| 15:38:17 | throughout the experiment? MR. GOSS: Object to form. A. "Drape style." Q. Like Like the drapes I mean here you have the drapes going, if you look at Figure 12, about halfway a little less than halfway between the top of the table and the floor; correct? A. Figure 12 is a figure that I drew based on | 15:43:16 | explanation in the logbook for a difference in the position of the drape with respect to the floor. Q. Okay. And by the way, was was the airflow the downflow generator on or off for Figure 11 a? A. Well that was the discrepancy that caused it to be removed. My impression when we did the test was the downflow generator was on. It wouldn't make sense to do the test without it. However, the logbook says |
| 15:38:17 | throughout the experiment? MR. GOSS: Object to form. A. "Drape style." Q. Like Like the drapes I mean here you have the drapes going, if you look at Figure 12, about halfway a little less than halfway between the top of the table and the floor; correct? A. Figure 12 is a figure that I drew based on observation of the experiment, and so although there | 15:43:16 2 15:43:18 3 15:43:22 4 15:43:25 5 15:43:26 6 15:43:31 7 15:43:33 8 15:43:36 9 15:43:39 10 | explanation in the logbook for a difference in the position of the drape with respect to the floor. Q. Okay. And by the way, was was the airflow the downflow generator on or off for Figure 11 a? A. Well that was the discrepancy that caused it to be removed. My impression when we did the test was the downflow generator was on. It wouldn't make sense to do the test without it. However, the logbook says it was off, and this causes casts doubt on the |
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| 15:38:17 2 15:38:23 3 15:38:28 5 15:38:36 7 15:38:36 7 15:38:38 8 15:38:39 9 15:38:42 10 15:38:46 11 15:38:50 12 15:38:50 13 | throughout the experiment? MR. GOSS: Object to form. A. "Drape style." Q. Like Like the drapes I mean here you have the drapes going, if you look at Figure 12, about halfway a little less than halfway between the top of the table and the floor; correct? A. Figure 12 is a figure that I drew based on observation of the experiment, and so although there it's not accurate to scale, that drape does not touch the floor. Q. But Figure 11 a's drape does. | 15:43:16 | explanation in the logbook for a difference in the position of the drape with respect to the floor. Q. Okay. And by the way, was was the airflow the downflow generator on or off for Figure 11 a? A. Well that was the discrepancy that caused it to be removed. My impression when we did the test was the downflow generator was on. It wouldn't make sense to do the test without it. However, the logbook says it was off, and this causes casts doubt on the figure, and that's why I removed it. Q. Okay. Did you look at the videos? A. Yes. |
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| | CC | CASE 0:15 md 02666 JNE DTS DOC DIFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | :, 823-8 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|--|---|--|--|--|
| | | 269 | | 271 |
| 15:44:23 | Figure 1 | 1 b. What is your understanding of how the | 15:46:46 1 | A. That's a separate drape from the one that |
| 15:44:28 2 | _ | sia drape is supposed to be placed over a | 15:46:48 2 | _ |
| 15:44:30 3 | patient? | sid drupe is supposed to be placed over a | 15:46:53 | _ |
| | | Once again anosthocia drane we built a frame | | |
| 15:44:36 4 | | Once again anesthesia drape we built a frame | _ | |
| 15:44:41 5 | | imensions that we had gotten, I guess by | 15:46:56 5 | |
| 15:44:50 | _ | at examples that we found. I'm not sure | 15:46:58 6 | |
| 15:44:56 | | supposed to guess here, but I'm not sure | 15:46:59 7 | |
| 15:44:59 | | where the height of that comes from. The | 15:46:59 | - J. |
| 15:45:01 9 | | eath that drape is a frame that holds it up, the | 15:47:00 9 | |
| 15:45:04 10 | | draped over the top in order to protect the | 15:47:03 10 | |
| 15:45:13 11 | face of t | he patient and isolate the anesthesia area. | 15:47:04 11 | · |
| 15:45:16 12 | | I don't really understand what you're asking | 15:47:06 12 | 33 |
| 15:45:18 13 | me here | | 15:47:08 13 | MR. GOSS: Object to form. |
| 15:45:21 14 | Q. | It's your experiment; correct? | 15:47:14 14 | A. Not all the experiments [clearing throat] |
| 15:45:23 15 | Α. | Yes. | 15:47:17 15 | 5 that used the Bair Hugger were with arms out. |
| 15:45:23 16 | Q. | So how did you set up the drapes? That's my | 15:47:21 16 | Q. Okay. All the experiments with the arms out |
| 15:45:26 17 | simple o | uestion, sir. | 15:47:23 17 | 7 had two drapes. |
| 15:45:27 18 | A. | So as you can see in this picture, the drape | 15:47:24 18 | A. Two drapes. |
| 15:45:30 19 | there | s a you can't see the frame, but there is | 15:47:25 19 | Q. And you're confident about that. |
| 15:45:32 20 | a frame. | | 15:47:26 20 | |
| 15:45:33 21 | Q. | Okay. | 15:47:27 21 | 1 Q. If I call in your assistant and take her |
| 15:45:33 22 | _ | The drape is draped over the top of the | 15:47:29 22 | • |
| 15:45:37 23 | | nd is open in the forward in the right-hand | 15:47:33 23 | |
| 15:45:40 24 | | and then the drape tapers down to the body | 15:47:34 24 | - |
| 15:45:42 25 | | of the frame on the left. | 15:47:35 25 | |
| 15.45.42 | just out | STIREWALT & ASSOCIATES | 15.47.35 | STIREWALT & ASSOCIATES |
| | | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | | ONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | | 270 | | 272 |
| 1 | Q. | How far does it taper down; to the knee? | 1 | 1 says you used two drapes? |
| 15:45:44 1 | Q. А. | No. Probably to the midriff. | 15:47:37 1 | |
| 15:45:48 | _ | | | _ |
| 15:45:52 3 | Q. | Okay. And is that the head right there that | | |
| 15:45:54 | _ | in the picture? | 15:47:57 4 | |
| 15:45:58 5 | | I think so, yes. | 15:47:59 5 | 5 5 5 · · · · · · · · · · · · · · · · · |
| 15:45:59 6 | | And that's the Bair Hugger blanket with a | 15:48:01 6 | |
| 15:46:01 7 | _ | on top of it? The white? | 15:48:07 7 | |
| 15:46:05 | A. | Bair Hugger | 15:48:10 | , , , |
| 15:46:05 | _ | The caption says Bair Hugger 522 blanket. | 15:48:13 | |
| 15:46:08 10 | Q. | Okay. Is there a drape over that blanket? | 15:48:15 10 | • |
| 15:46:11 11 | Α. | Yes. | 15:48:16 11 | |
| 15:46:12 12 | Q. | Okay. And then so there's another drape for | 15:48:18 12 | , |
| 15:46:14 13 | the anes | sthesia drape; correct? | 15:48:21 13 | drapes. |
| 15:46:16 14 | Α. | That's right. That was the body drape, not | 15:48:22 14 | Q. You've written reports before in scientific |
| 15:46:18 15 | the th | ne arms drape. | 15:48:25 15 | 5 literature; correct? |
| 15:46:22 16 | Q. | There's a difference between a body drape | 15:48:26 16 | 6 A. I have. |
| 15:46:24 17 | and an a | arms drape? | 15:48:27 17 | Q. And we discussed this, that to do a |
| 15:46:25 18 | A. | Yes. | 15:48:30 18 | 8 actually you've even commented on Elghobashi as that |
| 15:46:26 19 | Q. | What are the differences? | 15:48:33 19 | his report is is publishable the way it's set up; |
| 15:46:28 20 | A. | Look at Figure 12 and you will see well | 15:48:36 20 | O correct? |
| 10.40.20 | | n white, Bair Hugger covered by a cotton | 15:48:36 21 | MR. GOSS: Object to form. |
| 15:46:28 20 15:46:32 21 | what's ii | , | 15:48:40 22 | _ |
| | | but then in Figure 13 there is a drape over | | - A. Toure releasing to what when you |
| 15:46:32 21 15:46:36 22 | blanket, | but then in Figure 13 there is a drape over Hugger that extends all the way out to the | | |
| 15:46:32 21 15:46:36 22 15:46:40 23 | blanket, the Bair | Hugger that extends all the way out to the | 15:48:43 23 | Q. Have you said that or not? |
| 15:46:32 21 15:46:36 22 15:46:40 23 15:46:43 24 | blanket, the Bair ends of | Hugger that extends all the way out to the the arm-board. | 15:48:43 23 15:48:45 24 | Q. Have you said that or not?A. I remember the word "publishable." So I |
| 15:46:32 21 15:46:36 22 15:46:40 23 | blanket, the Bair ends of | Hugger that extends all the way out to the the arm-board. And that's a diff | 15:48:43 23 | Q. Have you said that or not? A. I remember the word "publishable." So I used that word in my notes in looking at Elghobashi's |
| 15:46:32 21 15:46:36 22 15:46:40 23 15:46:43 24 | blanket, the Bair ends of Q . | Hugger that extends all the way out to the the arm-board. | 15:48:43 23 15:48:45 24 | Q. Have you said that or not?A. I remember the word "publishable." So I |

| | CASI 0:15-mg-02666-JNL-D1S Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | , 823-8 | Filed 09/12/17 Page 71 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
|---|--|--|---|
| | | | 275 |
| | 273 | | _ |
| 15:48:52 1 | paper because of the elaborate model that he built and | 15:51:13 1 | A. Yes. |
| 15:48:58 2 | so forth, and the LES computation, before I discovered | 15:51:14 2 | Q. Okay. So your your report does not try |
| 15:49:05 | that Elghobashi had a serious discrepancy in his | 15:51:15 3 | to simulate squame movement in an operating room |
| 15:49:07 4 | boundary condition that was unreasonable. | 15:51:20 4 | environment; correct? |
| 15:49:10 5 | Q. Okay. | 15:51:22 5 | A. It was not |
| 15:49:10 6 | A. That part's not publishable. | 15:51:22 6 | Q. Okay. |
| 15:49:12 7 | Q. Assume that's correct. The reason why you | 15:51:22 7 | A considered in my work. |
| 15:49:14 | could determine that is because he put his paper in a | 15:51:23 | Q. Then you said, "publication-quality," |
| 15:49:18 | publication-quality format; correct? | 15:51:26 | exclamation point; correct? |
| 15:49:10 | Correct? | 15:51:27 10 | A. That's right. |
| | | | _ |
| 15:49:22 11 | A. It had the appearance of | 15:51:28 11 | Q. Okay. And you agree that the reason why you |
| 15:49:22 12 | Q. Okay. | 15:51:36 12 | felt it was publication quality is because it had a |
| 15:49:23 13 | A a publication quality. | 15:51:40 13 | methodology and someone could actually reproduce it or |
| 15:49:25 14 | Q. You might disagree with the boundary | 15:51:44 14 | even question it based on the amount of information |
| 15:49:26 15 | conditions, but at least you could determine what the | 15:51:48 15 | that was in there; correct? |
| 15:49:28 16 | boundary conditions were; correct? | 15:51:49 16 | A. That's not exac |
| 15:49:31 17 | A. Not totally correct. | 15:51:50 17 | MR. GOSS: I think he answered that, but |
| 15:49:33 18 | Q. You didn't know what | 15:51:52 18 | okay, try again. |
| 15:49:34 19 | You're criticizing his boundary conditions | 15:51:54 19 | A. That's not exactly the reason. It had the |
| 15:49:36 20 | because of what he stated, and now you're saying that | 15:51:57 20 | It was |
| 15:49:38 21 | | 15:51:57 20 | |
| | it wasn't in his report? | | As you already said, it had the appearance |
| 15:49:40 22 | A. Well I'm referring now to his transcript of | 15:52:00 22 | of publication, it was put in the that format. It |
| 15:49:44 23 | his deposition when he was unable to explain exactly | 15:52:03 23 | had publication-quality figures showing his results, |
| 15:49:49 24 | how he had stated the boundary condition at the bottom | 15:52:10 24 | and my initial impression of it was very positive. |
| 15:49:54 25 | of the drape, and he had no information about it | 15:52:13 25 | Q. Okay. Now let's talk about your report. |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 274 | | 276 |
| 15:49:58 | except that he said he got it from a YouTube video. | 15:52:17 1 | A. All right. |
| 15:50:04 2 | Q. No. That's not exactly what he said, but | 15:52:21 | Q. Is a scientist in the field of doing what |
| 2 | The mass not exactly what he said, sat | 10.02.21 | ar is a scientist in the field of doing what |
| | I'll let you helieve that | 15:52:24 | you do able to reproduce your report? |
| 4 | I'll let you believe that. | 15:52:24 3 | you do able to reproduce your report? |
| 15:50:09 4 | A. Or words to that effect. | 15:52:26 4 | A. I think so. |
| 15:50:09 4 15:50:09 5 | A. Or words to that effect.Q. But at the beginning of the time you said it | 15:52:26 4 15:52:26 5 | A. I think so.Q. Okay. So if they ask |
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| 15:50:09 4 15:50:09 5 | A. Or words to that effect.Q. But at the beginning of the time you said it was publication quality because it had the equations he used and it had enough information that someone | 15:52:26 4 15:52:26 5 15:52:28 6 15:52:31 7 | A. I think so.Q. Okay. So if they askSo is there anything about how long the BairHugger is on in your report? |
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| 15:50:09 | A. Or words to that effect. Q. But at the beginning of the time you said it was publication quality because it had the equations he used and it had enough information that someone could critique it or even reproduce it; correct? A. At the beginning, before I saw found this boundary-condition discrepancy that was my impression. Q. And you wrote that on page 9 of your in your notes; correct? A. One moment. (Witness reviewing exhibit.) Okay. Page 9. Right. The top of page 9 are my notes upon reading Elghobashi's expert report. Q. Let me read that to you. It says: "Elghobashi did not simulate the HotDog," exclamation point; correct? A. Correct. Q. Then you say squames "squames" A. "Motion." Q "motion from floor to" operate "operating site. We cannot simulate this, nor turbulence levels." You agree with that; correct? | 15:52:26 | A. I think so. Q. Okay. So if they ask So is there anything about how long the Bair Hugger is on in your report? Not in your notes, in your report, sir. A. It says Bair Hugger set at 43 degrees, and that means that you have to wait until the thing heats up, which takes sometimes minutes, 5, 10 minutes. So that's an indication of how long it's on. Once it's at 43 degrees we observed steady-state behavior. Q. Okay. So your you make the assumption that when the dial says 43 degrees, that that you're at steady state. MR. GOSS: Object to form. Q. If The LED says 43, you're at steady state. You're making that assumption. MR. GOSS: Object to form, mischaracterizes his testimony. A. Now I'll to answer your question I'll repeat what I said before. I was also watching the schlieren image to see if I saw anything changing. Q. Answer my question, please, sir. |
| 15:50:09 4 15:50:09 5 15:50:12 6 15:50:14 7 15:50:16 8 15:50:20 9 15:50:22 10 15:50:24 11 15:50:30 12 15:50:33 13 15:50:45 14 15:50:46 15 15:50:56 16 15:50:57 17 15:51:00 18 15:51:01 19 15:51:02 20 15:51:02 21 15:51:02 22 15:51:07 23 15:51:07 23 15:51:01 24 | A. Or words to that effect. Q. But at the beginning of the time you said it was publication quality because it had the equations he used and it had enough information that someone could critique it or even reproduce it; correct? A. At the beginning, before I saw found this boundary-condition discrepancy that was my impression. Q. And you wrote that on page 9 of your in your notes; correct? A. One moment. (Witness reviewing exhibit.) Okay. Page 9. Right. The top of page 9 are my notes upon reading Elghobashi's expert report. Q. Let me read that to you. It says: "Elghobashi did not simulate the HotDog," exclamation point; correct? A. Correct. Q. Then you say squames "squames" A. "Motion." Q "motion from floor to" operate "operating site. We cannot simulate this, nor turbulence levels." | 15:52:26 | A. I think so. Q. Okay. So if they ask So is there anything about how long the Bair Hugger is on in your report? Not in your notes, in your report, sir. A. It says Bair Hugger set at 43 degrees, and that means that you have to wait until the thing heats up, which takes sometimes minutes, 5, 10 minutes. So that's an indication of how long it's on. Once it's at 43 degrees we observed steady-state behavior. Q. Okay. So your you make the assumption that when the dial says 43 degrees, that that you're at steady state. MR. GOSS: Object to form. Q. If The LED says 43, you're at steady state. You're making that assumption. MR. GOSS: Object to form, mischaracterizes his testimony. A. Now I'll to answer your question I'll repeat what I said before. I was also watching the schlieren image to see if I saw anything changing. |

| 79 K in to at the | Filed 09/12/17 Page 72 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE O 279 MR. GOSS: Just going to object. I think he already stated he hasn't done any calculations in this report. | 1 2 1 | 15:5 | CASE 0:15-md-02666-JNE-DTS Doc CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | 1 | 5:53:27 |
|--------------------------|--|--|---|--|--|--|
| in to to at the | he already stated he hasn't done any calculations in | 1 2 | 15:5 | A | 1 | :53:27 |
| in to to at the | he already stated he hasn't done any calculations in | 2 | | A. That is my answer to your question. | | |
| to at the | | | 15:5 | Q. So the dial the LED display says 43 | 2 | 5:53:28 |
| to at the | | | 15:5 | degrees. Is that when you believe the Bair Hugger is | 3 | 5:53:31 |
| to at the | Q. Correct? | 4 | 15:5 | at steady state? | 4 | 5:53:33 |
| to at the | Correct? | 5 | 15:5 | A. That is when I believe | 5 | 5:53:33 |
| to at the | A. Repeat the question. | 6 | 15:5 | MR. GOSS: Asked and answered. | 6 | 5:53:35 |
| to at the | Q. You haven't done any calculations to | 7 | 15:5 | A. it's at steady state. | 7 | 5:53:35 |
| to at the | determine how long the Bair Hugger has to be on to | 8 (| 15:5 | Q. Okay. Thank you. | 8 | 5:53:38 |
| at the | achieve steady state in your system; correct? | | 15:5 | Now, but you don't mention how much time you | 9 | 5:53:38 |
| at the | A. No calculation. | | 15:5 | have that you let the Bair Hugger run before you take | | 5:53:40 |
| at the | Q. And you have done no experiments to | 11 | 15:5 | any testing results; correct? | | 5:53:42 |
| at the | determine how long the Bair Hugger has to be on to | | | A. Correct. | | 5:53:44 |
| | to get to steady state. | | 15:5 | Q. You understand | | 5:53:45 |
| | A. We had the experimental observation that | | 15:5 | You understand differential equations; | | 5:53:46 |
| | Bair Hugger reached its temperature, and the LED | | 15:5 | correct? | | 5:53:48 |
| | indicator indicated so. | | 15:5 | A. Yes. | | 5:53:50 |
| icator | Q. Because you assumed when the LED indica | | 15:5 | Q. Okay. And you understand the Navier-Stokes | | 5:53:50 |
| reacor | hit 43 it was at steady state. | | 15:5 | equations are differential equations; correct? | | 5:53:53 |
| his | MR. GOSS: Objection, mischaracterizes his | 19 | | A. They are. | | 5:53:56 |
| . 113 | testimony. | | | Q. And things change over time; correct? | | 5:53:56 |
| | Q. Correct? | | 15:5 | A. Excuse me, but the connection between | | 5:53:59 |
| | A. Yes. | 22 | | | | 5:54:01 |
| er 12. | _ | | | | | |
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| 30 | 280 | | | 278 | | |
| 9 | not you were at steady state or or if things were | 1 1 | 15:5 | Q. Do you believe that an operating room is a | 1 | 5:54:09 |
| | still changing? | 2 9 | 15:5 | steady or transient flow? | 2 | 5:54:10 |
| e time | A. With the wand anemometer the response t | 3 | 15:5 | A. There's no simple answer to that, but I'll | 3 | 5:54:20 |
| S | is not very fast, so about all you can do with that is | 4 i | 15:5 | give you the best answer I can give. If people are | 4 | 5:54:22 |
| 3 | to hold it in a fixed position, allow the temperature | 5 t | 15:5 | standing still, okay, the downflow generator is steady | 5 | 5:54:25 |
| | to equilibrate and assume that it's a steady-state | 6 t | 15:5 | in the mean, the outflow through the vents are steady | 6 | 5:54:31 |
| | measurement. | 7 1 | 15:5 | in the mean, in the average, so that can be modeled as | 7 | :54:34 |
| n? | Q. How long do you hold it in a fixed position? | 8 | 15:5 | a steady-state mean flow. But of course turbulence | 8 | 5:54:39 |
| n in | A. Until the temperature equilibrated, which in | 9 | 15:5 | can never be considered steady state because of motion | 9 | 5:54:42 |
| | this case would have been 30 seconds to a minute. | | 15:5 | of vortices and such. That's the best answer I can | | 5:54:48 |
| to | Q. Okay. So you stood still for 30 seconds to | | 15:5 | give you. | | 5:54:52 |
| | a minute without moving the anemometer in any | | 15:5 | Q. So you ran a steady-state flow but you agree | | 5:54:53 |
| | direction. | | | | | |
| | A. For For each one of those points. | 14 | | turbulence, cannot be steady state. | | |
| | | | 15:5 | | | |
| | from the when you took the first measurement? | | | | | 5:54:59 |
| Ċ | | | 15:5 | | | 5:55:00 |
| | | | 15:5 | | | 5:55:02 |
| | | | | on a space heater in this room right now, that it | | 5:55:04 |
| | | 20 | | takes time for it to become steady state; correct? | | |
| | | | | _ | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | • | 25 \ | 15:5 | | 25 | :55:19 |
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| | 1-800-553-1953 info@stirewalt.com | | | 1-800-553-1953 info@stirewalt.com | | |
| ı. 8e €ise oh. t | Q. Okay. Now with respect to Figure Numbersir, how many temperature measurements did you for each Figures 12 and 13 to compare whether STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE 28 not you were at steady state or or if things were still changing? A. With the wand anemometer the response is not very fast, so about all you can do with that is to hold it in a fixed position, allow the temperature to equilibrate and assume that it's a steady-state measurement. Q. How long do you hold it in a fixed position. A. Until the temperature equilibrated, which this case would have been 30 seconds to a minute. Q. Okay. So you stood still for 30 seconds to a minute without moving the anemometer in any direction. A. For For each one of those points. Q. Okay. And how long was the Bair Hugge from the when you took the first measurement? A. Could you clarify whether "How long it was on." Since we flipped the switch? Q. Yes, and it read 43 degrees Celsius. A. Oh. I think I've already answered that question. I'm I remember answering that quest Q. We talked about with respect to when you the schlieren imaging. I'm talking about with Figure 12 and 13 when you did the temperature measurer which was a different day. | 23 24 25 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 21 22 21 21 21 21 21 21 21 21 21 | 15:55 | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 278 Q. Do you believe that an operating room is a steady or transient flow? A. There's no simple answer to that, but I'll give you the best answer I can give. If people are standing still, okay, the downflow generator is steady in the mean, the outflow through the vents are steady in the mean, in the average, so that can be modeled as a steady-state mean flow. But of course turbulence can never be considered steady state because of motion of vortices and such. That's the best answer I can give you. Q. So you ran a steady-state flow but you agree with me that an operating room, since it has turbulence, cannot be steady state. A. Well we had MR. GOSS: Object to form. A turbulence here, also. Q. Okay. Now you agree with me that if I turn on a space heater in this room right now, that it takes time for it to become steady state; correct? A. Yes. Q. Okay. And you didn't perform any of those calculations to determine how much how long the Bair Hugger has to be on before it reached steady state; correct? | 23 24 25 1 2 3 4 5 6 7 8 9 0 11 12 13 14 15 6 17 18 19 0 22 22 32 4 | 5:54:03 5:54:08 5:54:08 5:54:08 5:54:08 5:54:09 5:54:20 6:54:21 6:54:22 6:54:24 6:54:25 6:5 |

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| 4 | 281 | | 283 |
| 5:57:42 | A. So you're | - | estion is implying that the airflow started when the |
| 5:57:46 | The question is how long after the Bair | | r Hugger reached 43 degrees, and that's not the way |
| :57:48 3 | Hugger reached its equilibrium did I take these | _ | perates. |
| :57:51 4 | measurements. | 16:00:03 4 | Q. I understand how a Bair Hugger operates. |
| :57:52 5 | Q. Yes. | 16:00:04 5 | But from the time |
| :57:53 6 | A. There's | 16:00:07 6 | I just want to know a simple question. From |
| :57:54 7 | It's a complex answer because the | 16:00:09 7 the | time you turned on the Bair Hugger till you took |
| :57:55 8 | measurements take a long time, but I let the Bair | 16:00:12 8 the | 28-degree Celsius measurement, how long was it? |
| :58:02 9 | Hugger reach its equilibrium temperature and did not | 16:00:16 9 | A. And can you explain what you mean by "turne |
| :58:06 10 | start taking data immediately, but gave some time for | 16:00:18 10 on | the Bair Hugger"? |
| 58:09 11 | any further equilibria equilibration that might be | 16:00:19 11 | Q. Flipping the switch. That's all I need to |
| 58:12 12 | called for. I would say five or ten minutes. | 16:00:21 12 kno | ow. Putting it on 43 degrees. There's a button |
| 58:14 13 | Q. Okay. So So within 5 or 10 minutes you | | t says ambient, 38 or whatever, 33, 38, 43, and |
| 58:18 14 | took down these five temperatures? | | n low and high. |
| 58:20 15 | A. Right. No. It takes a long time because it | 16:00:32 15 | I assume you put it on high; correct? |
| 58:22 16 | takes a minute or two for each | 16:00:34 16 | A. High. That's the fan setting. |
| | | | |
| 58:22 17 | Q. Okay. | 16:00:35 17 | Q. And you put the temperature to 43; correct? |
| 58:24 18 | A. point, and then it takes time to | 16:00:38 18 | A. Correct. |
| 8:26 19 | reposition, and so forth. | 16:00:38 19 | Q. And that automatically turns on the Bair |
| 58:27 20 | Q. Okay. Which was the first temperature you | | gger when you hit 43. |
| 8:29 21 | took on page Figure 12? | 16:00:41 21 | A. No. The Bair Hugger's running and blowing |
| 58:34 22 | A. I actually don't recall the order that those | 16:00:43 22 air | the whole time. |
| 8:38 23 | were taken in. | 16:00:47 23 | Q. So you were running the Bair Hugger without |
| 8:39 24 | Q. Okay. You agree that according to Figure 13 | 16:00:49 24 turr | ning it on |
| 88:48 25 | that the area under the arm-board increased as a | 16:00:50 25 | You had it on, but running on ambient? |
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| | 282 | ` | 284 |
| -o 1 | result of the Bair Hugger. | 16:00:52 1 | A. No. It's heating up. The 43 is the |
| 58:50 1 | MR. GOSS: "The area under the arm-board"? | 1 | |
| 58:55 2 | | ' | point. |
| 58:57 3 | Q. The temperature The area | 16:00:55 | Q. Okay. Let's back up. Let's back up. |
| 8:58 4 | The temperature under the arm-board | 16:00:58 4 | Let's just make it simple. You turn on the |
| 8:59 5 | increased. I'm sorry. | | r Hugger to whatever setting you put it at, which |
| 9:02 6 | A. Yes. | 16:01:04 6 was | s 43 degrees on high, okay, from the time you flip |
| 9:03 7 | Q. Okay. And that's as a result of the Bair | 16:01:08 7 the | switch and the motor starts rotating, okay? |
| 9:06 | Hugger turning on; correct? | 16:01:11 | A. Yes. |
| 9:11 | A. Yes. | 16:01:11 9 | Q. From that point |
| 9:12 10 | Q. I mean, if the Bair Hugger wasn't on it | 16:01:12 10 | A. Yes. |
| 9:14 11 | would be ambient temperature. | 16:01:12 11 | Q till you took this measurement of 28 |
| 9:15 12 | A. It would be, or close to it. | 16:01:16 12 deg | rees Celsius, how long was it? |
| 9:17 13 | Q. There's no other heat source down there | 16:01:18 13 | A. Twenty minutes. |
| 9:19 14 | except the Bair Hugger; correct? | 16:01:18 14 | Q. Twenty minutes. Okay. |
| 9:21 15 | A. You are correct. | 16:01:24 15 | Is that a guess? |
| | | 16:01:26 16 | _ |
| 9:21 16 | Q. So basically within 10 minutes the give | | A. I'm not supposed to guess, but it was on the |
| 9:24 17 | or take plus or two minutes, the Bair Hugger went from | | er of 20 minutes. It was not two minutes, it was |
| 9:27 18 | 17 degrees or the air underneath the drape went | | 200 minutes. |
| 9:30 19 | from 17 degrees Celsius to 28 degrees Celsius; | 16:01:37 19 | Q. Okay. So 20 minutes, give or take five |
| 9:33 20 | correct? | | nutes? |
| 9:34 21 | A. Well not correct, because what you're | 16:01:43 21 | MR. GOSS: If you can put that boundary on |
| 9:37 22 | missing in that question is that the airflow is on | 16:01:47 22 it, g | go ahead. But if your answer is what it is, then |
| 9:41 23 | from the moment you switch on the power of the Bair | 16:01:51 23 you | ı don't have to change it. |
| 9:45 24 | Hugger unit and it's flowing, but then the Bair Hugger | 16:01:52 24 | A. Twenty minutes, give or take 10 minutes. |
| | takes time to reach its setpoint. So I think your | 16:01:55 25 | Q. Okay. And we don't know which order you |
| 9:48 25 | | 1 | , |
| 59:48 25 | | | STIREWALT & ASSOCIATES |
| 9:48 25 | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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| | 285 | | 287 |
| 16:01:56 | took these measurements in; correct? | 16:04:08 | you said it was 10 to 15. Now it's minutes. |
| 16:01:58 2 | A. We don't. | 16:04:10 2 | A. It's minutes. |
| 16:01:59 3 | Q. But we have to guess that it's at least | 16:04:10 3 | MR. GOSS: Do you want him to guess or not? |
| 16:02:01 4 | between one minute to two minutes between | 16:04:12 4 | MR. ASSAAD: I want him to know what he |
| 16:02:03 5 | measurements. | 16:04:13 5 | knows, which doesn't seem like |
| 16:02:03 6 | A. Several minutes between measurements. | 16:04:14 6 | A. I'm not going to guess. |
| 16:02:05 7 | Q. Okay. Sitting here today you cannot give me | 16:04:16 7 | Q. Well then don't guess, but here's the |
| 16:02:12 | an answer of how long the Bair Hugger was on before | 16:04:18 | situation. I'm trying to reproduce this study, and I |
| 16:02:14 | you started taking temperature measurements. | 16:04:22 | might go spend some money to reproduce it, and at this |
| 16:02:17 10 | A. I just did. | 16:04:25 10 | point in time I need to know when you took the |
| 16:02:18 11 | Q. You took a | 16:04:28 11 | measurements and how long after so I can compare my |
| 16:02:19 12 | It was a guess, plus or minus 10 minutes. | 16:04:29 12 | results to your results. |
| 16:02:21 13 | MR. GOSS: Well object to form. You've | 16:04:30 13 | A. Umm-hmm. |
| 16:02:22 14 | asked him to make estimates about things. | 16:04:30 14 | Q. Okay. That's the point of a scientific |
| 16:02:25 15 | Q. Plus or minus 10 minutes; correct? | 16:04:32 15 | study. You agree? Okay? |
| 16:02:28 16 | A. I've already answered that question, sir. | 16:04:35 16 | A. Comparison, yes. |
| 16:02:30 17 | Q. Plus or minus 10 minutes. I'll take that. | 16:04:35 17 | Q. That I can reproduce it. |
| 16:02:32 18 | Okay. | 16:04:37 18 | A. Yes. |
| 16:02:32 19 | How long do you think it takes for the Bair | 16:04:37 19 | Q. And right now you are giving me a bunch of |
| 16:02:34 20 | Hugger to in a room that nothing is changing, which | 16:04:39 20 | guesses that I cannot say at what point in time after |
| 16:02:37 21 | is not the room that you have, but in a normal room, | 16:04:42 21 | I turn on the Bair Hugger that I could take these |
| 16:02:42 22 | how long do you think it takes to get to steady state? | 16:04:44 22 | measurements to get similar measurements to you. |
| 16:02:47 23 | A. Once again the way you stated the question | 16:04:47 23 | Isn't that fair? |
| 16:02:50 24 | is ambiguous to me. What takes to get to steady | 16:04:48 24 | MR. GOSS: Object to form. |
| 16:02:54 25 | state, the temperature of the blanket? | 16:04:53 25 | A. Turn on the Bair Hugger unit and let it warm |
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| 16:02:55 1 | Q. The temperature underneath the blanket. The | 16:04:56 1 | up. When it reaches 43 degrees with now a few extra |
| 16:02:58 2 | temperature underneath the drape. | 16:05:01 2 | minutes to ensure equilibration, you can proceed. |
| 16:03:00 3 | A. I believe we that you and I still have a | 16:05:05 3 | Q. Okay. |
| 16:03:03 4 | misunderstanding about that, that the when you turn | 16:05:05 4 | A. What's the I don't see a difficulty |
| 16:03:08 5 | the power unit on for the Bair Hugger the heating | 16:05:07 5 | there. |
| 16:03:11 6 | element and the fan both start operating, okay? And | 16:05:07 6 | MR. GOSS: You've answered the question. |
| 16:03:18 7 | then it takes a long time for the Bair Hugger to heat | 16:05:18 7 | Q. And you didn't do any schlieren testing on |
| 16:03:21 8 | up, 10 10 minutes, 15 minutes. | 16:05:20 | this on with this with temperature |
| 16:03:25 | Q. You think it takes 10 to 15 minutes for the | 16:05:22 | measurements; correct? |
| 16:03:27 10 | Bair Hugger to get to 43 degrees Celsius? | 16:05:23 10 | A. These were without schlieren images. |
| 16:03:30 11 | A. It takes a long time. | 16:05:26 11 | Q. Okay. So how do you know, when you took the |
| 16:03:31 12 | Q. Is that your testimony today; 10 to 15 | 16:05:27 12 | measurements, that you were at steady state? |
| 16:03:34 13 | minutes for the Bair Hugger to reach 43? | 16:05:32 13 | A. As I've already stated, there was a time |
| 16:03:36 14 | A. From flipping the switch. | 16:05:35 14 | a time delay was built in for these measurements after |
| 16:03:38 15 | Q. You understand that you actually could see | 16:05:37 15 | the Bair Hugger reached its steady state |
| 16:03:39 16 | the temperature, it counts up when you turn on the | 16:05:40 16 | Q. That's not a |
| 16:03:42 17 | Bair Hugger. You're aware of that; correct? The LED | 16:05:40 17 | A. to make sure. |
| 16:03:45 18 | changes till it gets to the 43. | 16:05:41 18 | Q. scientific basis, sir. |
| 16:03:47 19 | A. It's not that fast in the equipment we used. | 16:05:43 19 | Give me Give me an equation or an |
| 16:03:49 20 | Q. Do you think your equipment was faulty? | 16:05:45 20 | experiment or a basis. |
| 16:03:51 21 | A. No. I had my technician operating the | 16:05:46 21 | If I put a heater in this room, okay, I will |
| 16:03:55 22 | equipment, and he was waiting for the temperature to | 16:05:49 22 | test it to see I could put a thermometer and it |
| 16:03:59 23 | be reached, 43 degrees, before we took data, and it | 16:05:52 23 | becomes steady state when the temperature doesn't |
| 10.03.33 | | 16:05:55 24 | change. Do you agree? |
| 16:04:02 24 | took time. It took minutes. It doesn't just come | | |
| | took time. It took minutes. It doesn't just come Q. Well now it's now it's minutes. Before | 16:05:56 25 | "Yes" or "no"? |
| 16:04:02 24 | | 16:05:56 25 | |
| 16:04:02 24 | Q. Well now it's now it's minutes. Before | 16:05:56 25 | "Yes" or "no"? |
| 16:04:02 24 | Q. Well now it's now it's minutes. Before STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | | "Yes" or "no"? STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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| 40.05.50 1 | MD | GOSS: Object to the form. | 40.07.00 | 1 | anomom | eter is held in a position for one of these |
| 16:05:56 | _ | ou agree with that? | 16:07:29 | 2 | | ments until the reading reached steady state. |
| 16:05:58 | | GOSS: I believe he's answered the | 16:07:32 | 3 | Q. | How long did that take? |
| 16:05:59 3 | question. | 3033. I believe he's answered the | 16:07:36 | 4 | Q. A. | For these |
| 16:06:00 4 | • | d you repeat the question? | 16:07:38 16:07:40 | 5 | Α. | I already gave you that answer, too. That |
| 16:06:01 5 | _ | out a space heater in this room, | | 6 | takes at l | east a minute, and perhaps several minutes. |
| 16:06:01 7 | | e law of thermodynamics it's going to | 16:07:42 16:07:45 | 7 | _ | A minute for the anemometer to read the |
| 16:06:04 | _ | mperature in this room if we keep | 16:07:45 | 8 | - | ure; correct? |
| 16:06:09 | everything con: | | 16:07:49 | 9 | • | To reach an equilibrium value. |
| 16:06:11 10 | | corry. The law of what? | 16:07:51 | _ | Q. | Okay. So you think it takes one minute for |
| 16:06:13 11 | _ | modynamics, first law. | 16:07:54 | | - | asurement. |
| 16:06:16 12 | | eady state. | 16:07:56 | | cacii ilici | MR. GOSS: Well, mischaracterizes. I think |
| 16:06:17 13 | | joing to take time to get to steady | 16:07:58 | | he said " | |
| 16:06:19 14 | _ | I increase; correct? | 16:08:00 | | _ | To rephrase it. If the temperature were not |
| 16:06:22 15 | A. Yes. | | 16:08:04 | | | ate the anemometer would be showing |
| 16:06:22 16 | _ | when you get to steady state is where | 16:08:06 | | • | ments that never equilibrate. |
| 16:06:24 17 | - | equilibrium and there's no | 16:08:09 | | _ | Okay. So your testimony is that you know |
| 16:06:24 18 | | erruption by the reporter.) | 16:08:11 | | | ady state because the anemometer came to an |
| 16:06:24 19 | _ ` | n you get to steady state that's when | 16:08:14 | | | m in each of the measurements. |
| 16:06:26 20 | | equilibrium and you don't see a change | 16:08:18 | | Α. | Within one or two minutes, yes. |
| 16:06:30 21 | in temperature | | 16:08:19 | | Q. | Within one or two minutes. Okay. |
| 16:06:31 22 | A. Corre | | 16:08:29 | 22 | | How fast or at what rate do you believe that |
| 16:06:31 23 | Q. Okay | v. You did not do that in this case; did | 16:08:32 | | the Bair I | Hugger changed the temperature underneath the |
| 16:06:35 24 | you, sir? | , | 16:08:37 | 24 | | ample, underneath the arm-board from 17 |
| 16:06:36 25 | • | GOSS: Object to form. | 16:08:40 | 25 | | Celsius to 28 degrees Celsius? |
| | S | TIREWALT & ASSOCIATES | | | _ | STIREWALT & ASSOCIATES |
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| | | | | | | |
| | CONFIDE | ENTIAL - SUBJECT TO PROTECTIVE ORDER | | | CO | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | CONFIDE | ENTIAL - SUBJECT TO PROTECTIVE ORDER 290 | | | CO | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 292 |
| 16:06:36 1 | CONFIDE A. Yes, | 290 | 16:08:44 | 1 | CO A . | |
| 16:06:36 1 16:06:37 2 | A. Yes, | 290 | 16:08:44 16:08:46 | 1 2 | _ | 292 |
| | A. Yes, Q. When | 290 I did. | | | Α. | 292 I've already answered that question, sir. |
| 16:06:37 2 | A. Yes, Q. When | 290 I did. re? Where's the data to show me the rature measurements to show that this is | 16:08:46 | | A. Q. | 292 I've already answered that question, sir. No, you haven't. |
| 16:06:37 2 16:06:39 3 | A. Yes, Q. When multiple tempe at steady state | 290 I did. re? Where's the data to show me the rature measurements to show that this is | 16:08:46 16:08:47 | 3 | A. Q. A. | I've already answered that question, sir. No, you haven't. Yes, I have. Well answer it again, then. See if I can repeat my answer. |
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| 16:06:37 2 16:06:39 3 16:06:42 4 16:06:44 5 16:06:47 6 16:06:50 7 | A. Yes, Q. When multiple tempe at steady state MR. A. Do y | I did. re? Where's the data to show me the rature measurements to show that this is? GOSS: Objection, asked and answered. ASSAAD: Yeah, right. ou have a question for me? | 16:08:46 16:08:47 16:08:48 16:08:52 | 3 4 5 6 7 | A. Q. A. Q. A. | I've already answered that question, sir. No, you haven't. Yes, I have. Well answer it again, then. See if I can repeat my answer. The From flipping the switch, in our te it took between on the order of 10 to 15 |
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| 16:06:37 2 16:06:39 3 16:06:42 4 16:06:44 5 16:06:47 6 16:06:50 7 16:06:51 8 16:06:51 9 | A. Yes, Q. When multiple tempe at steady state MR. MR. A. Do y Q. Yeah Show | I did. re? Where's the data to show me the rature measurements to show that this is? GOSS: Objection, asked and answered. ASSAAD: Yeah, right. ou have a question for me? . v me the measurements that you determined | 16:08:46 16:08:47 16:08:48 16:08:52 16:08:54 16:09:04 16:09:08 | 3 4 5 6 7 8 9 | A. Q. A. Q. A. experience minutes of temperate | I've already answered that question, sir. No, you haven't. Yes, I have. Well answer it again, then. See if I can repeat my answer. The From flipping the switch, in our ce it took between on the order of 10 to 15 for the Bair Hugger to reach its equilibrium ure, and then a further amount of time was |
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| | CC | CASE 0:15-md-02666-JNE-DTS Doc NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 293 | 823-8 | Filed 09/12/17 Page 76 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 295 |
|---|---|---|---|---|
| 16:11:08 1 | Α. | Yes. | 16:13:30 1 | based on the points, are about 26 to 27 degrees |
| | Q. | | | Celsius? |
| _ | | Because it's warmer than the ambient air; | • | |
| 16:11:10 3 | correct? | Th. i.e. | 16:13:36 | |
| 16:11:10 4 | Α. | It is. | 16:13:39 4 | Q. Okay. And therefore that air would rise; |
| 16:11:11 5 | Q. | Do you agree that when it if it's 28 | 16:13:41 5 | correct? |
| 16:11:13 6 | _ | and it once it reaches the side of the | 16:13:42 6 | A. Correct. |
| 16:11:18 7 | drape th | at it's going to begin to go up because of | 16:13:47 7 | MR. GOSS: I could use a bathroom break |
| 16:11:20 | buoyanc | y? | 16:13:50 | whenever you reach a good spot. |
| 16:11:21 9 | A. | Well it's blocked on the sides by the drape, | 16:13:52 | MR. ASSAAD: We can take a break now. |
| 16:11:24 10 | so I beli | eve that a thermal boundary layer forms on | 16:13:57 10 | MR. GOSS: Okay. |
| 16:11:28 11 | the botto | om of that arm-board and that it spills out at | 16:13:58 11 | THE REPORTER: Off the record, please. |
| 16:11:33 12 | the locat | ion that is easiest, which would be right | 16:13:59 12 | (Recess taken from 4:13 to 4:19 p.m.) |
| 16:11:38 13 | | ie right here [indicating]. | 16:19:55 13 | BY MR. ASSAAD: |
| 16:11:44 14 | | Is that | 16:19:58 14 | Q. Going back to Figure Numbers 12 and 13, Dr. |
| 16:11:44 15 | ٦. | Is that towards me or further from me, like | 16:20:07 15 | Settles, you agree with me that if assuming that |
| | into the | · | 16:20:07 13 | |
| 16:11:47 16 | | paper or out of the paper? | | the air coming out of the jets is 41 degrees Celsius, |
| 16:11:48 17 | | It would spill at the sides, towards you and | 16:20:17 17 | that would affect the numbers the measurements that |
| 16:11:52 18 | | her direction as well, because the drape | 16:20:20 18 | you had on Figures 12 and 13; correct? |
| 16:11:54 19 | _ | own the least there. And maybe All right. | 16:20:24 19 | MR. GOSS: Objection, improper |
| 16:12:00 20 | So let's p | out it this way. | 16:20:25 20 | hypothetical. |
| 16:12:01 21 | Q. | Can you please high or please highlight | 16:20:31 21 | A. Would affect it as compared to what? |
| 16:12:01 22 | the area | you're talking about on Exhibit | 16:20:33 22 | Q. As compared to what you have here. |
| 16:12:04 23 | | Is that Exhibit 2? | 16:20:36 23 | A. In other words, compared to my measurement |
| 16:12:07 24 | Α. | Exhibit 1. | 16:20:37 24 | at the holes of 32, 33 degrees. |
| 16:12:08 25 | Q. | Let's use Exhibit 2. | 16:20:41 25 | Q. I'm saying assuming |
| 10.12.00 | ٠. | STIREWALT & ASSOCIATES | 10:20:11 | STIREWALT & ASSOCIATES |
| | , | I-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | | NFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 00 | 294 | | 296 |
| | | Can you highlight where you believe the air | 16:20:42 | A. Oh. |
| 16:12:09 1 | ما المالية | , , | | |
| 16:12:11 Z | would es | • | 16:20:42 | Q. that the air coming out of the holes is |
| 16:12:17 3 | | (Witness complying.) | 16:20:45 | 41 degrees Celsius, you agree with me that it would |
| 16:12:35 4 | | All right. And can you on Figure number | 16:20:47 4 | affect the measurements that you've taken in Figures |
| 16:12:40 5 | 7 12 c | an you correspond to, like, the side-view of | 16:20:52 5 | 12 and 13; correct? |
| 16:12:43 6 | what you | ı highlighted? Could you? | 16:20:53 6 | MR. GOSS: Same objections. |
| 16:12:47 7 | Α. | It's not really visible in that figure | 16:20:55 7 | A. I |
| 16:12:50 | because | the figure is kind of a perspective looking | 16:20:56 8 | Sir, I have to call that an improperly |
| 16:12:52 9 | down on | top of the table | _ | |
| | | top of the table | 16:20:59 | formulated question. The measurements I've taken are |
| 16:12:55 10 | | Okay. | 16:20:59 9 16:21:02 10 | formulated question. The measurements I've taken are what they are regardless of what the temperature is |
| | | Okay. | | what they are regardless of what the temperature is |
| 16:12:55 11 | Q. A. | Okay so I can't actually see under there. | 16:21:02 10 16:21:05 11 | what they are regardless of what the temperature is coming out of the holes. |
| 16:12:55 11 16:12:57 12 | Q. A. Q. | Okay so I can't actually see under there. So you highlighted between like 26 and 27 | 16:21:02 10 16:21:05 11 16:21:06 12 | what they are regardless of what the temperature is coming out of the holes. Q. Say I had a Bair Hugger blanket that |
| 16:12:55 11 16:12:57 12 16:12:59 13 | Q. A. Q. degrees | Okay so I can't actually see under there. So you highlighted between like 26 and 27 Celsius marks; correct? | 16:21:02 10 16:21:05 11 16:21:06 12 16:21:11 13 | what they are regardless of what the temperature is coming out of the holes. Q. Say I had a Bair Hugger blanket that produced 41 degrees Celsius air coming out of the |
| 16:12:55 11 16:12:57 12 16:12:59 13 16:13:02 14 | Q. A. Q. degrees A. | Okay so I can't actually see under there. So you highlighted between like 26 and 27 Celsius marks; correct? The center. | 16:21:02 10 16:21:05 11 16:21:06 12 16:21:11 13 16:21:15 14 | what they are regardless of what the temperature is coming out of the holes. Q. Say I had a Bair Hugger blanket that produced 41 degrees Celsius air coming out of the holes, the jet jets of air coming out of the holes. |
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| 16:12:55 11 16:12:57 12 16:12:59 13 16:13:02 14 16:13:02 15 16:13:06 16 16:13:09 17 16:13:13 18 16:13:14 19 16:13:15 20 16:13:17 21 16:13:18 22 16:13:21 23 | Q. A. Q. degrees A. Q. could sees shoulder Q. atmosph A. me to sp | Okay so I can't actually see under there. So you highlighted between like 26 and 27 Celsius marks; correct? The center. Okay. And that's going to And you want to keep that down so the camera e the document. MS. ZIMMERMAN: The camera over your is looking at it from above. And that would escape out into the ere, is that your? Well, I mean, all of this is you're asking reculate. But since I have to answer the | 16:21:02 10 16:21:05 11 16:21:06 12 16:21:11 13 16:21:15 14 16:21:18 15 16:21:21 16 16:21:23 17 16:21:24 18 16:21:25 19 16:21:27 20 16:21:29 21 16:21:31 22 16:21:35 23 | what they are regardless of what the temperature is coming out of the holes. Q. Say I had a Bair Hugger blanket that produced 41 degrees Celsius air coming out of the holes, the jet jets of air coming out of the holes. Would that change the temperature that the temperatures that you have listed in Figures 12 and 13? A. I just answered that question. MR. GOSS: Calls for speculation. Q. So you're not going to answer the question? A. The these are the numbers that I measured from the Bair Hugger blanket, I regardless of what the temperature was coming out of the holes. |
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| 16:12:55 11 16:12:57 12 16:12:59 13 16:13:02 14 16:13:02 15 16:13:06 16 16:13:09 17 16:13:13 18 16:13:14 19 16:13:15 20 16:13:17 21 16:13:18 22 16:13:21 23 16:13:25 24 | Q. A. Q. degrees A. Q. could sees shoulder Q. atmosph A. me to sp question Q. | Okay so I can't actually see under there. So you highlighted between like 26 and 27 Celsius marks; correct? The center. Okay. And that's going to And you want to keep that down so the camera e the document. MS. ZIMMERMAN: The camera over your is looking at it from above. And that would escape out into the ere, is that your? Well, I mean, all of this is you're asking seculate. But since I have to answer the that's my surmise. | 16:21:02 10 16:21:05 11 16:21:06 12 16:21:11 13 16:21:15 14 16:21:18 15 16:21:21 16 16:21:22 17 16:21:25 19 16:21:27 20 16:21:29 21 16:21:31 22 16:21:35 23 16:21:36 24 | what they are regardless of what the temperature is coming out of the holes. Q. Say I had a Bair Hugger blanket that produced 41 degrees Celsius air coming out of the holes, the jet jets of air coming out of the holes. Would that change the temperature that the temperatures that you have listed in Figures 12 and 13? A. I just answered that question. MR. GOSS: Calls for speculation. Q. So you're not going to answer the question? A. The these are the numbers that I measured from the Bair Hugger blanket, I regardless of what the temperature was coming out of the holes. Q. Well don't you think the temperatures coming |

| | CASE 0:15-md-02666-JNE-DTS Doc. | 823-8 | Filed 09/12/17 Page 77 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDE |
|--|--|--|--|
| _ | 297 | | 299 |
| 16:21:40 1 | that you measured? | 16:23:59 | making a measuring the temperature distribution. |
| 6:21:41 2 | A. That's not what you asked me. | 16:24:02 | Q. But your measure |
| 6:21:42 3 | Q. Do you think that would affect what you're | 16:24:03 | A. I think I claimed, I did claim, if you look |
| 6:21:43 4 | measuring? | 16:24:05 | in my report for Figure 9 |
| 6:21:45 5 | A. If you changed it. | 16:24:16 5 | Where can I find it? |
| 6:21:46 | Q. Yes. | 16:24:17 6 | Q. I'm aware of your report. I know you made |
| 6:21:46 7 | A. It would affect these these numbers. | 16:24:19 7 | the claim that this is not typically how it's used. |
| 6:21:49 | Q. And if you increased | 16:24:19 | A. Yes. |
| 6:21:51 9 | A. But we didn't change it. | 16:24:22 | Q. I understand that, sir. |
| 6:21:52 10 | Q. Okay. I'm not asking you that, sir. | 16:24:23 10 | A. I made that claim. |
| 6:21:54 11 | And if I if we changed the temperatures | 16:24:24 11 | Q. I've read your report. |
| 5:21:56 12 | and increased the temperature coming out of the | 16:24:25 12 | So my question is: Do you know what the |
| 5:21:58 13 | perforated holes in the Bair Hugger, would you agree | 16:24:27 13 | temperatures coming out of the jets when it's placed |
| 6:22:00 14 | with me that would increase these temperatures in | 16:24:29 14 | above a patient as used in an as used as it's |
| 5:22:02 15 | Figures 12 and 13? | 16:24:32 15 | supposed to be used in an operating room? |
| 5:22:03 16 | MR. GOSS: Same objection, improper | 16:24:34 16 | A. I did not make that measurement. |
| 6:22:05 17 | hypothetical. | 16:24:36 17 | Q. Okay. Do you think it will be more or less |
| 5:22:09 18 | A. As you stated it this last time, yes. | 16:24:43 18 | than 32 to 33 degrees? |
| 3:22:12 19 | Q. Okay. And in fact it would significantly | 16:24:45 19 | A. You're asking me to guess. |
| 3:22:16 20 | increase the temperature if you changed the | 16:24:46 20 | Q. I'm ask If you know. I'm ask If you |
| 3:22:19 21 | temperature coming out of the perforated holes from 33 | 16:24:49 21 | don't know, you can say "I don't know." |
| 5:22:22 22 | degrees to 41 degrees Celsius; correct? | 16:24:50 22 | A. I don't know. |
| 3:22:24 23 | MR. GOSS: I'm just going to object that | 16:24:51 23 | Q. Okay. I don't want you to guess, but it's |
| 3:22:26 24 | the 33-degree temperature is not in Figure 12 or 13. | 16:24:53 24 | okay to say "I don't know the answer." |
| 3:22:35 25 | But subject to that, you can answer. | 16:24:55 25 | A. Right. |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 298 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDE 300 |
| 5:22:38 1 | A. What's your question, please? | 16:25:00 1 | Q. Now let's go to Figure 14. This is where |
| 6:22:39 | Q. Well let's back it up a little bit. | 16:25:03 | you compare the convection currents between the Bair |
| 3:22:41 3 | I would assume, and correct me if I'm wrong, | 16:25:08 | Hugger blower and the HotDog control device; correct? |
| 5:22:44 4 | doctor, that the measurements taken in Figures 12 and | 16:25:16 4 | A. That's correct. |
| 5:22:48 5 | 13 was with the Bair Hugger on, and that if you | 16:25:17 5 | Q. The HotDog is not a blower; correct? |
| 3:22:52 6 | measured the air coming out of the perforations it | 16:25:21 6 | A. It has a cooling fan but it is not a blower |
| s:22:54 7 | would be what you measured previously as being 33 | 16:25:23 7 | in the sense that same sense as the Bair Hugger. |
| 3:22:58 | degrees 33 or 32 degrees Celsius; correct? | 16:25:26 | Q. And if I look at figures b and d I see a |
| :23:02 | A. There is a difference in the sense that in | 16:25:29 | significant difference between the the density of |
| :23:06 10 | this case the the mannequin is draped, cloth over | 16:25:33 10 | the air around the Bair Hugger as compared to the |
| | | 1 | |
| | | 16:25:35 11 | HotDog. Is that Is that an incorrect statement? |
| :23:10 11 | the top and so forth, whereas in as clearly stated in the report for Figure 9 I believe for Figure 9 | 16:25:35 11 16:25:38 12 | HotDog. Is that Is that an incorrect statement? A. It is in the sense that you're looking at |
| :23:10 11 | the top and so forth, whereas in as clearly stated in the report for Figure 9 I believe for Figure 9 | | A. It is in the sense that you're looking at |
| :23:10 11 :23:14 12 :23:22 13 | the top and so forth, whereas in as clearly stated | 16:25:38 12 | - |
| :23:10 11 :23:14 12 :23:22 13 :23:29 14 | the top and so forth, whereas in as clearly stated in the report for Figure 9 I believe for Figure 9 and Figure 8 b, this was done as a benchtop | 16:25:38 12 16:25:40 13 | A. It is in the sense that you're looking at density gradient. But if you replaced "density" with |
| 5:23:10 11 5:23:14 12 5:23:22 13 5:23:29 14 5:23:31 15 | the top and so forth, whereas in as clearly stated in the report for Figure 9 I believe for Figure 9 and Figure 8 b, this was done as a benchtop experiment, it was not draped, it was not on a | 16:25:38 12 16:25:40 13 16:25:44 14 | A. It is in the sense that you're looking at density gradient. But if you replaced "density" with "density gradient," in these particular pictures I |
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| .23:10 11 .23:14 12 .23:22 13 .23:29 14 .23:31 15 .23:33 16 .23:36 17 | the top and so forth, whereas in as clearly stated in the report for Figure 9 I believe for Figure 9 and Figure 8 b, this was done as a benchtop experiment, it was not draped, it was not on a mannequin. It was the Bair Hugger blanket on a benchtop. It's not exactly the same situation. | 16:25:38 12 16:25:40 13 16:25:44 14 16:25:50 15 16:25:51 16 | A. It is in the sense that you're looking at density gradient. But if you replaced "density" with "density gradient," in these particular pictures I would say yes. Q. Okay. And you would consider them remarkable; correct? |
| .23:10 11 .23:14 12 .23:22 13 .23:29 14 .23:31 15 .23:33 16 .23:36 17 .23:36 18 | the top and so forth, whereas in as clearly stated in the report for Figure 9 I believe for Figure 9 and Figure 8 b, this was done as a benchtop experiment, it was not draped, it was not on a mannequin. It was the Bair Hugger blanket on a benchtop. It's not exactly the same situation. Q. Okay. So what's the purpose of doing that | 16:25:38 12 16:25:40 13 16:25:44 14 16:25:50 15 16:25:51 16 16:26:08 17 | A. It is in the sense that you're looking at density gradient. But if you replaced "density" with "density gradient," in these particular pictures I would say yes. Q. Okay. And you would consider them remarkable; correct? |
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| 5:23:10 11 5:23:14 12 5:23:22 13 5:23:29 14 5:23:31 15 6:23:33 16 6:23:33 16 6:23:34 17 6:23:40 18 6:23:44 20 6:23:46 21 6:23:46 21 6:23:46 22 6:23:47 23 6:23:47 23 6:23:52 24 | the top and so forth, whereas in as clearly stated in the report for Figure 9 I believe for Figure 9 and Figure 8 b, this was done as a benchtop experiment, it was not draped, it was not on a mannequin. It was the Bair Hugger blanket on a benchtop. It's not exactly the same situation. Q. Okay. So what's the purpose of doing that measurement, then, if it does if it's not relevant to how it actually is used in an operating room? A. I didn't say it wasn't relevant. I think it's very relevant, but Q. How is it relevant? A. It's relevant because I'm isolating the microholes and I'm examining the behavior of the jets | 16:25:38 12 16:25:40 13 16:25:41 14 16:25:50 15 16:25:51 16 16:26:08 17 16:26:10 18 16:26:15 19 16:26:20 20 16:26:24 21 16:26:27 22 16:26:28 23 16:26:31 24 | A. It is in the sense that you're looking at density gradient. But if you replaced "density" with "density gradient," in these particular pictures I would say yes. Q. Okay. And you would consider them remarkable; correct? A. My conclusion, from examining the images and the videos, is that the airflow patterns around the Bair Hugger blower and the HotDog power unit have differences that are not remarkable. Q. And what's your basis that what's your definition of "remarkable"? A. Significantly different, obviously |

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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 301 | 020 | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 303 |
| 16:26:33 | Q. So you're saying here between figures b and | 16:30:11 1 | Q. Okay. And as we discussed previously, there |
| 16:26:35 2 | d you see no significant difference. | 16:30:30 2 | are many things that could alter the laminar flow or |
| 16:26:37 3 | A. Remember I also talk about looking at the | 16:30:38 3 | the unidirectional flow in an operating room that's |
| 16:26:40 4 | videos. And we know that single images don't convey | 16:30:40 4 | around the surgical table; correct? |
| 16:26:45 5 | the nature of something that's turbulent has | 16:30:46 5 | MR. GOSS: Objection, vague. |
| 16:26:49 6 | turbulent convection and so forth. | 16:30:48 6 | A. Yes. Can you be more specific? |
| 16:26:51 7 | Q. So if you look at videos 239 and 242, is | 16:30:51 7 | People moving around, is this what you're |
| 16:26:59 | that what you're referring | 16:30:54 | referring to? |
| 16:26:59 | (Interruption by the reporter.) | 16:30:54 | Q. No. Just having four people around the |
| 16:26:59 10 | A. Yes. I think you'll get a better impression | 16:30:56 10 | operating room table, that's going to effect the |
| 16:27:04 11 | of the phenomenon. | 16:30:59 11 | unidirectional flow based on their thermal plumes; |
| 16:27:26 12 | Q. And 239 and 242 are the viewpoint of images | 16:31:02 12 | correct? |
| 16:27:32 13 | a and c; correct? If you know. | 16:31:02 13 | A. Compared to what, having no people? |
| 16:27:38 14 | A. I don't know | 16:31:04 14 | Q. Yes. |
| 16:27:40 15 | Q. Okay. | 16:31:09 15 | A. People certainly make a difference, yes. |
| 16:27:40 16 | A without looking it up. | 16:31:11 16 | Q. Having a a patient there that has a |
| 16:28:04 17 16:28:07 18 | Q. And my understanding is Well let me ask | 16:31:16 17 16:31:19 18 | that puts out wattage is going to have an effect on |
| 16:28:07 16 16:28:10 19 | you this. Strike that. The determination of whether or not a change | 16:31:19 16 | the unidirectional airflow; correct? A. I think that's a negligible effect. |
| 16:28:10 19 | is remarkable or unremarkable is subjective; correct? | 16:31:23 19 | Q. Okay. But you could have put people in to |
| 16:28:35 21 | A. I don't I don't think that "subjective" | 16:31:26 20 16:31:34 21 | your to your study, and you decided not to do that; |
| 16:28:38 22 | is a good word, but I can you would have to ask a | 16:31:37 22 | correct? |
| 16:28:45 23 | number of observers to look at these images and reach | 16:31:37 23 | A. That's correct. |
| 16:28:49 24 | a consensus if you'd like a perfectly objective | 16:31:38 24 | MR. GOSS: Object to form. |
| 16:28:56 25 | result. | 16:31:38 25 | Q. And probably the reason why is because it |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | 302 | | 304 |
| 16:28:59 1 16:29:03 2 | Q. Well we can agree that schlieren imaging is quantitative, not qualitative. Doesn't give you a | 16:31:40 1 | would probably block the schlieren mirrors. A. Is there a question there for me? |
| 16:29:06 3 | number. | 16:31:46 3 | Q. Yeah. That's One of the reasons why you |
| 16:29:06 4 | A. No. You have these backwards. | 16:31:48 4 | didn't put people in there was because it would affect |
| 16:29:08 5 | Q. Or qualitative, not quantitative. I'm | 16:31:50 5 | you probably would not get a direct image of the |
| 16:29:10 6 | sorry. | 16:31:53 6 | mirrors and it would obstruct the view. |
| 16:29:10 7 | A. In this instance we did qualitative | 16:31:57 7 | MR. GOSS: I'm just going to object that it |
| 16:29:14 | schlieren visualization. We did not extract numbers | 16:31:59 | misstates the report with respect to Figure 15, but |
| 16:29:17 9 | from the schlieren images | 16:32:01 9 | you can answer. |
| 16:29:17 10 | Q. Okay. | 16:32:01 10 | MR. ASSAAD: I'm not even on Figure 15. |
| 16:29:19 11 | A although it is possible. | 16:32:03 11 | MR. GOSS: Okay. |
| 16:29:20 12 | Q. Now according to page 3 of your report, on | 16:32:14 12 | Q. Well you could use four people around the |
| 16:29:23 13 | the last line you write you're talking about you | 16:32:16 13 | operating room table; correct? |
| 16:29:31 14 | can't do a schlieren optical system in an OR because | 16:32:17 14 | A. You see people around the operating table in |
| 16:29:34 15 | of the size constraints. It says: "Instead, the | 16:32:19 15 | this figure. |
| 16:29:36 16 16:29:39 17 | approach taken here is to experimentally reproduce a typical OR laminar downflow" | 16:32:19 16 16:32:22 17 | Q. I see one. Correct? |
| 16:29:42 18 | A. Yes. | 16:32:23 18 | A. One person. |
| 16:29:42 19 | Q. Okay. And that was your goal; correct? | 16:32:23 19 | Q. You understand around a typical total hip or |
| 16:29:46 20 | A. Well it was to isolate the laminar downflow, | 16:32:30 20 | total knee arthroplasty there is the anesthesiologist; |
| 16:29:52 21 | the surgical table, the mannequin with the blankets | 16:32:33 21 | correct? |
| 16:29:55 22 | and examine the interaction of downflow and blankets | 16:32:35 22 | Correct? |
| 16:30:00 23 | in the same way between the forced air and the | 16:32:36 23 | A. Well we don't have to count these people. |
| 16:30:04 24 | conduction blanket without going through a complete | 16:32:38 24 | There are more There are several people around the |
| 16:30:09 25 | simulation of an operating room. | 16:32:41 25 | surgery table. |
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Filed 09/12/17 Page 79 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER CASE 0:15-md-02666-JNL-D IS DOC CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER device has no effect on particle movement from Q. And not only are they going to have an 1 1 16:35:50 16:32:42 particles underneath the operating room table. 2 effect causing, you know, thermal plumes, but they're 2 16:32:44 16:36:03 also going to effect the airflow around the operating 3 **A.** My study didn't involve particle movement. 3 16:36:06 16:32:47 room table and especially underneath the operating 4 Okay. So you're not going to make that 4 16:36:08 16:32:50 room table; correct? 5 5 16:36:10 claim at all and you have no evidence to either 16:32:52 6 A. I don't know how much effect underneath, but 6 support or refute that claim. 16:32:53 they certainly interact with the laminar downflow as 7 MR. GOSS: With respect to particle 16:32:55 16:36:14 movement under the OR table. far as their upper body and head's concerned. 8 16:32:59 8 16:36:16 9 **Q.** So if you were to give me a percentage of g MR. ASSAAD: Yes. 16:36:18 16:33:01 similarity between your setup and a typical OR, what 16:36:18 10 **A.** We have no evidence of particle movement 10 16:33:04 11 would you give? 16:36:19 11 under the OR table. 16:33:07 12 MR. GOSS: Object to form. 16:36:22 12 Q. And you are not going to make the claim that 16:33:09 16:36:28 13 13 **A.** I can't even make that estimate because, as the Bair Hugger does not form convection currents from 16:33:12 we just discussed, this is a simulation of the center 16:36:41 14 underneath the operating room that could carry 16:33:19 14 16:36:43 15 16:33:22 15 of the operating room with the downflow and its particles. 16:33:26 16 interaction with the immediate vicinity of the table. 16:36:44 16 **A.** As we already know in this testimony, we didn't actually get any usable results underneath the 16:33:28 17 And we did have one person, we could have had four 16:36:48 17 18 people, as you said. But give you a percentage? I 16:36:52 18 operating table. 16:33:31 16:33:38 19 don't even understand what you're asking me. 16:36:53 19 Q. Okay. Okay. So the only thing that you're 16:33:40 20 **Q.** Let me ask you this. Could you publish this 16:36:56 20 claiming is the effect a Bair Hugger has, mainly by 16:33:42 **21** conduction, on the effect of the unidirectional report and come to the conclusion and state: In a 16:37:01 21 16:37:09 **22** 16:33:46 **22** downward airflow; correct? typical operating room where a total hip or total knee 16:33:50 23 arthroplasty was performed that the Bair Hugger has no 16:37:10 23 MR. GOSS: Object that it --16:33:55 24 effect on unidirectional airflow? 16:37:10 24 A. Not correct. 16:34:00 **25** MR. GOSS: Object to form. 16:37:11 25 MR. GOSS: -- misstates his testimony and STIREWALT & ASSOCIATES STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 306 308 Q. Can you make that statement in a 1 1 opinions. 16:34:03 2 2 peer-reviewed literature based on the study that you 16:34:05 16:37:14 MR. ASSAAD: I'm trying to understand his 3 performed? 3 testimony. 16:34:07 16:37:15 4 If I published this I would not claim that 4 **Q.** The buoyancy or the density difference that 16:34:08 16:37:15 this was an operating room, it was a simulation of the you see in Figure 10 a, that's a result of the heat 16:37:18 16:34:12 downflow and the patient on the table. We're not transfer from the Bair Hugger through the cotton 16:37:25 16:34:19 7 simulating an operating room. blanket and through the drape and then exited above 7 16:34:22 8 8 the patient; correct? **Q.** So you can't state today that your report 16:37:34 16:34:23 9 claims that in a typical operating room the Bair 9 A. Yes. 16:37:36 16:34:28 10 Hugger would have no effect on the unidirectional 16:37:37 10 Q. And the transfer of the Bair Hugger from the 16:34:32 11 airflow. 16:37:43 11 Bair Hugger blanket to the blank -- to the cotton 16:34:36 16:34:37 12 MR. GOSS: Object to form. 16:37:45 12 blanket, would you agree with me is mostly by 13 **A.** I didn't even claim that the Bair Hugger has 16:37:47 13 conduction? 16:34:38 no effect in the simulation, so I certainly wouldn't MR. GOSS: Calls for speculation. You can 14 16:37:52 14 16:34:52 15 claim it in an operating room that I didn't simulate. 16:37:54 15 answer if you have an understanding of that. 16:35:02 16 16:37:56 16 **Q.** So you do agree that the Bair Hugger has an Q. I can make it easier. 17 effect on the downward airflow of, like -- the 16:37:57 17 You agree with me that the jets are pointing 16:35:05

unidirectional airflow.

If you will please look at Figure 10, you will see that both the Bair Hugger and the HotDog have visible effects on the laminar downflow.

16:35:22 **21** 16:35:25 22 Q. Okay. And just -- And you -- and -- Strike 16:35:33 23 that.

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16:35:34 24 And you agree with me that you have no 16:35:44 25 evidence to make the statement that the Bair Hugger STIREWALT & ASSOCIATES

16:35:12 18

16:35:14 19

16:35:17 20

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downwards and what's up top is a smooth surface,

A. All right. That's the way the blanket's

Q. Okay. Therefore it's by contact that the

heat's being transferred from the Bair Hugger blanket

correct, that's in touch with the blanket, cotton

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16:37:59 18

16:38:02 19

16:38:05 20

16:38:06 21

16:38:07 22

16:38:09 23

16:38:10 24

16:38:12 25

blanket: correct?

supposed to be applied, yes.

to the cotton blanket; correct?

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| | 309 | _ | 311 |
| 16:38:14 1 | A. Yes.Q. And I'm not saying it's a hundred percent | 16:40:24 1 16:40:26 2 | below the Bair Hugger that actually comes from underneath the table and rises along the sides above |
| 16:38:17 | conduction, but we could agree based on engineering | 16:40:26 2 | the operating room table, that may carry particles |
| 16:38:20 4 | principles, education, training and experience that | 16:40:36 4 | with it from underneath the operating room table; |
| 16:38:22 5 | the primary source of heat transfer is by conduction | 16:40:38 5 | correct? |
| 16:38:25 6 | from the Bair Hugger blanket to the cotton blanket. | 16:40:39 6 | MR. GOSS: Objection, beyond the scope of |
| 16:38:28 7 | Do you agree? | 16:40:40 7 | the opinions. |
| 16:38:30 | A. I agree. | 16:40:41 8 | A. I'm really not going to comment on particle |
| 16:38:30 | Q. And also for the same as from the Bair | 16:40:43 | motion here. |
| 16:38:34 10 | Hugger from the cotton blanket to the surgical drape; | 16:40:44 10 | Q. Well you agree that air contains particles; |
| 16:38:37 11 | correct? | 16:40:46 11 | correct? |
| 16:38:37 12 16:38:38 13 | A. Correct.Q. Because the surgical drape is impermeable, | 16:40:46 12 16:40:47 13 | A. Not always.Q. Well unless it's particle-free air. But you |
| 16:38:40 14 | so even if there's air flowing through it the way it's | 16:40:47 13 | could agree with me that with I mean you you |
| 16:38:43 15 | going to effect the schlieren imaging is because of | 16:40:54 15 | cite ASHRAE; correct? In your references; correct? |
| 16:38:46 16 | the conduction of the heat transfer from the cotton | 16:40:58 16 | A. Yes. |
| 16:38:49 17 | blanket to the surgical drape; correct? | 16:40:58 17 | Q. And you agree with ASHRAE when they say |
| 16:38:51 18 | A. Correct if you add that what we see in the | 16:41:00 18 | between 1 to 900 million skin squames are shed during |
| 16:38:53 19 | schlieren imaging is the convection rising from that. | 16:41:04 19 | a typical surgery. |
| 16:38:56 20 | Q. Oh yeah. And that's the that's the | 16:41:05 20 | A. That number in the literature is varies |
| 16:38:58 21 | natural convection from a heated surface into air. | 16:41:09 21 | very widely, but I would agree with you that a large |
| 16:39:00 22 | A. Yes. | 16:41:13 22 | number of skin squames are released by the human body. |
| 16:39:01 23 16:39:03 24 | Q. Has nothing to do with the convection from | 16:41:17 23 16:41:19 24 | Q. And this air that's escaping from underneath |
| 16:39:03 24 16:39:05 25 | the jets coming from below. MR. GOSS: Object to form. | 16:41:19 24 16:41:22 25 | the Bair Hugger and rising may carry some of those skin squames up; correct? |
| 16:39:05 | STIREWALT & ASSOCIATES | 16:41:22 | STIREWALT & ASSOCIATES |
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| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 310 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 312 |
| 16:39:06 1 | 310 A. I can't agree with that positively because I | 16:41:24 1 | |
| 16:39:10 2 | $ \textbf{A.} \text{I can't agree with that positively because I} \\ \text{don't know how much of the jet air manages to make it} $ | 16:41:24 | A. I don't I'm not aware that there is air escaping |
| 16:39:10 2 16:39:13 3 | A. I can't agree with that positively because I don't know how much of the jet air manages to make it around and come up above. | 16:41:24 2 16:41:26 3 | A. I don't I'm not aware that there is air escaping from underneath the Bair Hugger and rising because the |
| 16:39:10 2 16:39:13 3 16:39:16 4 | A. I can't agree with that positively because I don't know how much of the jet air manages to make it around and come up above. Q. But even if above from around the | 16:41:24 2 16:41:26 3 16:41:28 4 | A. I don't I'm not aware that there is air escaping from underneath the Bair Hugger and rising because the drape, as you pointed out, is impermeable, so. |
| 16:39:10 2 16:39:13 3 16:39:16 4 16:39:19 5 | A. I can't agree with that positively because I don't know how much of the jet air manages to make it around and come up above. Q. But even if above from around the blanket? | 16:41:24 2 16:41:26 3 16:41:28 4 16:41:31 5 | A. I don't I'm not aware that there is air escaping from underneath the Bair Hugger and rising because the drape, as you pointed out, is impermeable, so. Q. But you just said you wouldn't rule it out, |
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| 16:39:10 2 16:39:13 3 16:39:16 4 16:39:19 5 16:39:21 7 16:39:23 8 16:39:28 9 16:39:35 11 16:39:37 12 16:39:41 13 16:39:41 14 16:39:42 15 16:39:42 15 16:39:44 16 16:39:46 17 16:39:49 18 16:39:53 19 16:39:57 20 | A. I can't agree with that positively because I don't know how much of the jet air manages to make it around and come up above. Q. But even if above from around the blanket? A. I don't know how much that may happen. Q. So that may happen that the heat can come from around the blanket up into the into the above above the patient. Just so I understand you correctly. A. The way we've set it up I agreed with you already that it was primarily conduction. Q. Conduction. Q. Conduction. Q. Okay. But But But there may be some convective currents that come from the jets that escape from the side of the drape and shoot up and cause some of this | 16:41:24 | A. I don't I'm not aware that there is air escaping from underneath the Bair Hugger and rising because the drape, as you pointed out, is impermeable, so. Q. But you just said you wouldn't rule it out, though. MR. GOSS: This is getting speculative, but if you have a different answer than you provided, then you may answer. Q. Well you mention you testified before you wouldn't rule that out. A. I testified that I think that it's would be a minor effect, or I would like to say that if that's there it's a very minor effect. Q. So you your testing did not rule that possible effect out; correct? A. My testing did not. Q. Okay. So explain to me, you did testing one |
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| 16:39:10 2 16:39:13 3 16:39:15 4 16:39:19 6 16:39:21 7 16:39:23 8 16:39:28 9 16:39:35 11 16:39:37 12 16:39:41 13 16:39:41 14 16:39:42 15 16:39:42 15 16:39:43 18 16:39:45 17 16:39:45 18 16:39:53 19 16:39:57 20 16:40:01 21 16:40:06 22 16:40:07 23 16:40:07 24 | A. I can't agree with that positively because I don't know how much of the jet air manages to make it around and come up above. Q. But even if above from around the blanket? A. I don't know how much that may happen. Q. So that may happen that the heat can come from around the blanket up into the into the above above the patient. Just so I understand you correctly. A. The way we've set it up I agreed with you already that it was primarily conduction. Q. Conduction. A. Conduction. Q. Okay. But But But there may be some convective currents that come from the jets that escape from the side of the drape and shoot up and cause some of this refractive density, I think that's the right term, in the schlieren imaging; correct? In Figure 10. A. I wouldn't rule it out. Q. You wouldn't rule it out. A. No. Q. Okay. And you agree if some of this | 16.41.24 2 16.41.26 3 16.41.28 4 16.41.31 5 16.41.33 6 16.41.35 7 16.41.36 8 16.41.40 9 16.41.42 10 16.41.43 11 16.41.45 12 16.41.49 13 16.41.53 14 16.41.57 15 16.42.00 16 16.42.01 17 16.42.02 18 16.43.06 19 16.43.08 20 16.43.11 21 16.43.12 22 16.43.13 23 16.43.25 24 | A. I don't I'm not aware that there is air escaping from underneath the Bair Hugger and rising because the drape, as you pointed out, is impermeable, so. Q. But you just said you wouldn't rule it out, though. MR. GOSS: This is getting speculative, but if you have a different answer than you provided, then you may answer. Q. Well you mention you testified before you wouldn't rule that out. A. I testified that I think that it's would be a minor effect, or I would like to say that if that's there it's a very minor effect. Q. So you your testing did not rule that possible effect out; correct? A. My testing did not. Q. Okay. So explain to me, you did testing one day and you threw it all out because there was a problem? A. Would you be referring What would you be referring What would you be referring C. The stratification issue, page 15. A. Yes. That was already discussed, I think, |
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| 16:43:29 | Q. I don't believe it was. | 16:46:55 | trying to get it as good as we could. |
| 16:43:29 2 | A. All right. | 16:46:58 2 | Q. Okay. Did you ever consider just |
| 16:43:31 3 | Q. But I'm sure if it was your counselor would | 16:47:06 3 | Well would you agree that one of the issues |
| 16:43:33 4 | say, "asked and answered." | 16:47:07 | that caused problems was because you were feeding the |
| 16:43:34 5 | MR. GOSS: That's true. | 16:47:09 5 | air from the side instead of from a duct up top? |
| 16:43:36 6 | Q. So since he's being quiet I assume that it | 16:47:17 6 | A. That's a good question. |
| 16:43:38 7 | hasn't been discussed yet. | 16:47:21 7 | Q. At least you think one of my questions is |
| 16:43:39 | A. All right. That is what happened. We had, | 16:47:22 8 | good today. |
| 16:43:43 9 | on that particular day because of a severe rainstorm | 16:47:24 9 | (Laughter.) |
| 16:43:46 10 | we had a set of problems that I deemed to be serious | 16:47:26 10 | A. I've cited reference 22, Richardson's paper |
| 16:43:56 11 | enough that we would repeat those tests, and we did | 16:47:29 11 | on how to design a fluid flow distributor. And |
| 16:43:58 12 | repeat those tests subsequently. This is my duty and | 16:47:33 12 | basically that paper says that if the distributor's |
| 16:44:04 13 | responsibility not to accept conditions that are not | 16:47:37 13 | designed correctly, then every orifice or every |
| 16:44:07 14 | acceptable. | 16:47:44 14 | segment has the same pressure drop. In that case it |
| 16:44:51 15 | Q. Did | 16:47:49 15 | doesn't matter what the airflow pattern is inside the |
| 16:44:53 16 | Would it be fair to assume, since there was | 16:47:52 16 | plenum because the flow rate will be the same if the |
| 16:44:57 17 | this was an open-air facility that had no | 16:47:55 17 | pressure drop is the same and the outside pressure is |
| 16:45:01 18 | ventilation heating or ventilation, air | 16:47:58 18 | the same. |
| 16:45:04 19 | conditioning, that | 16:47:59 19 | Q. But you couldn't achieve that; could you? |
| 16:45:05 20 | A. It had natural ventilation. | 16:48:00 20 | A. We didn't exactly achieve that, no. |
| 16:45:06 21 | Q. And the natural ventilation is based on the | 16:48:02 21 | Q. Okay. And it |
| 16:45:08 22 | outside temperature; correct? | 16:48:03 22 | A. We tried. |
| 16:45:11 23 16:45:12 24 | A. It's a | 16:48:04 23 16:48:09 24 | Q. And it's obvious from probably the first |
| 16:45:12 24 16:45:14 25 | It's affected by the outside temperature, sure. | 16:48:09 24 16:48:22 25 | from pages 7 to 11 about the different types of testing and throttle positions and stuff you put |
| 10:45:14 | STIREWALT & ASSOCIATES | 16:48:22 | STIREWALT & ASSOCIATES |
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| 16:45:14 | Q. So you would agree with me that throughout | 16:48:25 1 | inside there to get to a 39 foot per minute face value |
| 16:45:16 2 | the day the temperature would be different in the | 16:48:31 2 | face velocity; correct? |
| 16:45:18 3 | warehouse. | 16:48:32 3 | A. You now are referring to the logbook. |
| 16:45:19 4 | A. There were some temperature variations which | 16:48:34 4 | Q. Yeah, Exhibit 7. |
| 16:45:22 5 | we measured and recorded. | 16:48:36 5 | A. Pages 7 to 11. |
| 16:45:23 6 | Q. I mean, some days it changed by four or five | 16:48:53 6 | From To page 11. You'll see on page 11 |
| 16:45:25 7 | degrees; correct? | 16:48:57 7 | that that's where we began taking data on April 27th. |
| 16:45:26 | A. Yeah. It could. | 16:49:03 | Q. And you picked what's called |
| 16:45:28 9 | Q. And of course you agree that that's going to | 16:49:06 9 | A. "Chosen operating conditions." |
| 16:45:30 10 | have an effect on comparing test results from one day | 16:49:08 10 | Q. And used marked, quote unquote, 41; correct? |
| 16:45:36 11 16:45:38 12 | to the next. A I don't think the four or five degrees is | 16:49:12 11 | A. That's right.Q. And for that chosen operating condition the |
| 16:45:38 12 16:45:42 13 | A. I don't think the four or five degrees is that significant. | 16:49:12 12 16:49:15 13 | face velocity was 41 feet per minute; correct? |
| 16:45:42 13 | Q. Okay. | 16:49:18 14 | A. Average. |
| 16:45:50 15 | MR. ASSAAD: By the way, Peter Goss, we | 16:49:19 15 | Q. Average. |
| 16:45:53 16 | withdraw our request for any other images | 16:49:20 16 | And you've never made any changes with |
| 16:45:56 17 | MR. GOSS: Okay. | 16:49:22 17 | respect to the throttle since that day; correct? |
| 16:45:57 18 | MR. ASSAAD: that were not produced. | 16:49:29 18 | A. I believe that the throttle setting of 17 |
| 16:46:35 19 | BY MR. ASSAAD: | 16:49:32 19 | was then constant because you see it again on May 5th. |
| 16:46:35 20 | Q. And Mr. Settles, I think I understood this | 16:49:36 20 | Q. And you agree that even with the throttle |
| 16:46:39 21 | before, just wanted to clarify. | 16:49:38 21 | setting of 17, depending on the day, the face velocity |
| 16:46:41 22 | There was an issue of trying to get an | 16:49:42 22 | could was changing. |
| 16:46:42 23 | average of a 39 feet per second or per minute face | 16:49:44 23 | A. The measured The measurement changed. |
| 16:46:46 24 | velocity with your downflow generator; correct? | 16:49:47 24 | Q. Okay. Now I'm trying to understand this on |
| 16:46:52 25 | | | |
| 10.40.32 | A. We spent several days on this of hard work | 16:49:49 25 | the side of page 11 it says "need 150 millimeter," I |
| 10.40.02 | STIREWALT & ASSOCIATES | 16:49:49 25 | STIREWALT & ASSOCIATES |
| | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | 16:49:49 25 0 316 of 352 | STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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| 317 16:49:55 1 don't understand that. "Outward" or out 16:49:57 2 A. Need 150 millimeter outboard focusing lens 16:50:02 3 plus options. Plus or minus options. That refers to | 319 16.52:51 1 Q. Of the Bair Hugger device, the the the heat sources, such as the people in the room. 16.53:04 A. All right. I'm trying to I'm trying to |
| 16:50:06 4 the fact that with this schlieren I'll try to keep | 16.53:07 4 get a question from you that I can answer. |
| 16:50:10 5 this concise with this schlieren system a normal | 16:53:09 5 Q. Okay. Well let me let me We could agree that the operating room air |
| 16.50:14 6 camera lens doesn't function because it vignettes or 16.50:19 7 crops the image. And this was my my purview as the | We could agree that the operating room air supply is at a different temperature than the |
| 16.50:25 8 optics guy to try to fix this, and my solution to it | 16:53:19 8 operating room; correct? |
| 16.50:28 9 was to take off the camera lens and put an outboard | 16:53:20 9 A. I think we already discussed that it's |
| 16.50:32 10 fixed lens in place. Unfortunately the first one I | 16:53:21 10 colder for |
| 16.50:36 11 used didn't have exactly the right focal length, so | 16.53.23 11 Q. Okay. And that wasn't the case in your |
| this is my note to myself that I needed a different | 16.53.25 12 simulation; correct? It was all one constant |
| 16:50:42 13 lens in order to fit the circle on the digital image plane properly. | 16:53:28 13 temperature; correct? 16:53:29 14 A. We Yes. |
| 16:50:52 15 I realize that without an explanation that | 16:53:29 14 A. We - Tes. 16:53:30 15 Q. Okay. And with respect to buoyancy, the |
| 16.50.54 16 doesn't make sense to anybody. | 16:53:34 16 Delta T has an effect on buoyancy; correct? |
| 16:50:57 17 Q. All right. Let's go to page 21. | 16.53:37 17 A. Buoyancy of what? |
| 16:51:14 18 A. Okay. | 16.53.39 18 Q. Of air. |
| 16.51:25 19 Q. Under "downflow generator off," see that big | 16:53:43 19 A. All right. I'll try to answer that question |
| 16:51:28 20 square there? | 16.53.51 20 as I understand. Buoyancy of, let's say the the |
| 16:51:29 21 A. Yes. | plume of the candle, a candle flame, |
| Q. It says, outside temperature approximately one degree Fahrenheit greater than indoor temperature, | 16:54:00 22 Q. Yes. 16:54:00 23 A. which is buoyant? All right. |
| therefore downflow is subject to buoyancy and relevant | 16:54:00 23 A. which is buoyant? All right. 16:54:02 24 It's a one degree difference so it'll have a |
| 16.51:39 25 temperature is an issue. | 16:54:06 25 minor effect. |
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| 16:51:40 1 Did I read that correctly? 16:51:42 2 A. You did. "Relative" temperature. | 16:54:06 1 Q. What if it's a six degree difference? 16:54:12 A. Once again I'd do this calculation, but |
| 16:51:44 3 Q. "Relative." | 18:54:15 3 certainly if you have a vast difference in temperature |
| 16.51:46 4 What do you mean by that? | 16:54:19 4 of the downflow then you would see a difference, yes. |
| 16.51:48 5 A. We had to be careful not to feed the | 16:54:25 5 Q. Okay. And do you know what the temperature |
| 16.51:52 6 downflow generator with air at a different temperature | 16:54:27 6 is around where the surgeons are standing and the |
| than the room air, because in that case the air that | 16.54.31 7 patient is in an operating room if the air coming out |
| 16.52:00 8 comes out of the downflow generator will be subject to | 16:54:33 8 is about 59 degrees Celsius? |
| buoyancy forces. And in most of the testing the temperature was the same, but in this and the case | 16:54:35 9 A. Well I've seen numbers that are that vary 16:54:39 10 from one operating room to the next, so I don't know |
| 16.52:13 11 noted earlier that was repeated, we had some | 16:54:42 11 that there's an exact answer to that. |
| 16:52:18 12 difficulty. | 16:54:44 12 Q. Do you know the rough Delta, Delta T between |
| 16.52:19 13 Q. Well would you agree with me that in an | 16:54:46 13 what's coming out of the ceiling and what's around? |
| 16.52:22 14 operating room the temperature from the air supply is | 16:54:49 14 A. A few degrees. |
| 16.52:23 15 at a different temperature than the operating room? | 16:54:50 15 Q. Few degrees? Okay. |
| 16.52.26 16 A. Colder, yes. | 16:54:51 16 And you agree that a few degrees will have |
| 16.52:26 17 Q. Okay. So there'll be some buoyancy forces | 16:55:04 17 an effect, you just don't know whether or not it would |
| with re with respect to buoyancy from heat sources on that air that would be different than if the | 16:55:06 18 be a significant effect or not. 16:55:08 19 A. I'll agree with that. |
| 16.52:33 19 on that air that would be different than if the 16.52:35 20 temperature's uniform; correct? | 16:55:09 20 Q. Okay. Is there anywhere in any of the |
| 16.52:38 21 A. I'm sorry. Can you rephrase? | 16:55:44 21 plaintiffs' expert reports that say the jets that are |
| 16.52:40 22 Q. Well the fact that there's a different | 16.55.49 22 coming out of the Bair Hugger blanket reach the |
| 16.52.41 23 temperature from the air supply in an operating room | 16:55:54 23 operating room floor? |
| | 16:55:57 24 A. My understanding of the reports cited by the |
| 16.52:44 24 has an effect on buoyancy as well; correct? | , |
| 16:52:44 24 has an effect on buoyancy as well; correct? A. Buoyancy of what? | 16:56:04 25 plaintiff are that a stream of air reaches the |
| 16.52:44 24 has an effect on buoyancy as well; correct? | |

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| 16:56:10 1 | operating room floor, not the jets from the individual | 16:58:34 1 | A. Well you have to I'd have to comment on |
| 16:56:16 2 | holes in the Bair Hugger blanket. | 16:58:34 1 16:58:36 2 | that that we're now talking about air generated by the |
| 3:56:17 | Q. You agree that | 16:58:36 2 | Bair Hugger blanket; am I right? That came out |
| 3:56:25 4 | You agree that the drape is impermeable; | 16:58:49 4 | through the microholes. |
| 5:56:27 5 | correct? | 16:58:52 5 | Q. Yes. |
| | A. Yes. | • | A. All right. Just I'm just trying to get |
| - | Q. As we discussed. | 16:58:53 6 16:58:57 7 | your understand your question so I can answer. |
| 3:56:28 7 3:56:29 8 | And if the drape is coming around the entire | 16:58:59 | That air, as I demonstrated, is already |
| 3:56:31 | table, okay, including the feet, and air can escape, | 16:58:59 9 | rapidly mixing out with its surroundings, so how |
| :56:37 10 | that the mass flow of air coming in underneath the | 16:59:08 10 | how buoyant is it? And if you look at my figures, my |
| 3:56:42 11 | drape has to escape at some point from around the | 16:59:12 11 | measurements in Figure 12 and well especially |
| 6:56:46 12 | drape; correct? | 16:59:16 12 | Figure 12, you will see that underneath the blanket |
| 6:56:48 13 | A. I don't believe that's correct, because if | 16:59:10 12 | the air that down there was only one degree above |
| 6:56:49 14 | you will have a look at Figure Figure [Witness | 16:59:26 14 | room temperature in that measurement. |
| 6:57:01 15 | reviewing exhibit.] | 16:59:26 14 | Q. But other areas it's 11 degrees above |
| 3:57:01 13 3:57:01 16 | Q. 12, 13? | 16:59:27 13 | temperature. |
| 5:57:01 10 5:57:02 17 | A. No. I'm looking for the anesthesia blanket. | 16:59:30 17 | A. Around the head. |
| 6:57:02 17 6:57:04 18 | In Figure 11 there is evidence there that | 16:59:31 17 | Q. Well I'm talking I'm looking at Figure |
| 6:57:04 10 | there's a pretty significant amount of convective heat | 16:59:32 10 | 13. |
| 6:57:11 20 | transfer coming out in the front of the blanket. So | 16:59:34 19 | A. Yeah. These measurements are underneath the |
| 6:57:11 20 6:57:14 21 | that's another path for heat loss in addition to flow | 16:59:39 20 16:59:42 21 | arm-board, you're right. It's high It's higher |
| 6:57:14 21 | down to the bottom of the drape. | 16:59:42 21 16:59:44 22 | than that, so |
| 6:57:19 22 | | 16:59:44 22 16:59:45 23 | Q. And you agree once that air escapes it's |
| 6:57:21 23 6:57:24 24 | Q. I didn't give a number. I'm just saying if | 16:59:45 23 16:59:47 24 | |
| 3:57:24 24 3:57:26 25 | there's mass flow that's going underneath the drape, that mass flow the same amount of mass flow has to | 16:59:47 24 16:59:49 25 | going to have some buoyant effect; correct? |
| 6:57:26 43 | STIREWALT & ASSOCIATES | 16:59:49 23 | A. If it's warmer than the surroundings, yes, STIREWALT & ASSOCIATES |
| | | | |
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| 1 | 322 | | 324 |
| 3:57:30 1 | escape from around the drape; correct? A. Okay. Yes. | 16:59:51 1 | Q. Okay. |
| 3:57:32 2 | Q. Okay. So whether or not it's 80 percent of | • | |
| 5:57:33 3 | · | | • |
| 3:57:35 4 | the air or, according to, you know unless you | 16:59:57 4 17:00:28 5 | , |
| :57:38 5 | unless you abide by Abraham where it's a hundred | | Okay. Let's look at Figures 12 and 13. |
| 5:57:41 6 | percent of the air comes out of the head and neck | 17:00:37 6 | Okay. You agree that over time, say in a typical 45 |
| 3:57:43 | there's some certain amount of mass flow that's going | 17:00:42 7 | minute to an hour surgery, that the drape and the |
| 8:57:46 8 8:57:47 9 | underneath the drape; correct? | 17:00:49 8 17:00:54 9 | cotton blanket and will come to well the drape |
| - | MR. GOSS: Object to form. You can testify | 17:00:54 9 17:00:58 10 | will come to some sort of equilibrium temperature; correct? |
| 5:57:49 10 | about If you have an answer, you can provide it. | | _ |
| 5:57:56 11 | Q. Mass cannot be created or destroyed; | 17:00:59 11 | _ |
| :57:58 12 | correct? | 17:00:59 12 | Q. And that temperature is going to be warmer |
| :57:59 13 | A. Well I would agree with that. | 17:01:01 13 | than the ambient temperature; correct? |
| 3:58:00 14 | Q. Okay. So if you have if you have a mass | 17:01:08 14 | A. You're saying by virtue of the |
| 3:58:02 15 | flow of air going underneath the blanket it's going to | 17:01:10 15 | patient-warming blanket. |
| 3:58:05 16 | push the air out and escape as long as long as you | 17:01:12 16 | Q. Yes. I'm saying with the patient-warming |
| 5:58:08 17 | have the continuous mass flow coming in through the | 17:01:15 17 | blanket on. |
| :58:10 18 | through the Bair Hugger blanket; correct? | 17:01:15 18 | A. That makes sense. |
| :58:12 19 | A. Whatever amount of air that does not go out | 17:01:16 19 | Q. Okay. Now |
| :58:14 20 | to the head I presume has to go out by some other | 17:01:18 20 | And we agree that if air escapes at a higher |
| 0.4 | path. Maybe it goes down to the feet, maybe it goes | 17:01:23 21 | temperature it's going to have a buoyant effect; |
| | to the bottom of the blanket. It's buoyant and it | 17:01:25 22 | correct? |
| :58:20 22 | | | A. To the extent that it's warmer than the |
| :58:20 22 :58:23 23 | will find its easiest path of escape to get out. | 17:01:26 23 | |
| 3:58:20 22 3:58:23 23 3:58:27 24 | will find its easiest path of escape to get out. Q. And once it escapes it's going to go up | 17:01:28 24 | ambient temperature, it will be buoyant. |
| 6:58:17 21 6:58:20 22 6:58:23 23 6:58:27 24 6:58:29 25 | will find its easiest path of escape to get out. Q. And once it escapes it's going to go up until it reaches some sort of equilibrium; correct? | | ambient temperature, it will be buoyant. Q. And you agree with me that the air the |
| 3:58:20 22 3:58:23 23 3:58:27 24 | will find its easiest path of escape to get out. Q. And once it escapes it's going to go up | 17:01:28 24 | ambient temperature, it will be buoyant. |

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| 17:01:35 1 what you see occurring in Figure 10, 15 I'm sorry | 17:03:54 | as long as it's a greater temperature than the ambient |
| 17:01:43 2 in Figure 10 a, this buoyant this density is | 17:03:57 2 | air; correct? |
| 17:01:50 3 is because the air around or close to the Bair Hugger | 17:03:57 3 | MR. GOSS: I think you already got him to |
| 17:01:54 4 blanket has some buoyancy to it; correct? | 17:03:59 4 | say this. |
| 17:01:57 5 A. Well I don't think so, because in this case | 17:03:59 5 | MR. ASSAAD: I'm walking him down this. |
| 17:02:00 6 we have the plastic blanket over it so the there | 17:04:01 6 | MR. GOSS: He's not going to offer opinions |
| 7 was a discussion about conduction up through these | 17:04:03 7 | about what's happening under the table. |
| 17:02:08 8 layers, and I think what you're seeing there is the | 17:04:05 | MR. ASSAAD: Okay. |
| 17:02:11 9 fact that the surface of the plastic blanket is warmer | 17:04:05 | MR. GOSS: But subject to that, you can |
| 17:02:14 10 than | 17:04:07 10 | answer if you have one. |
| 17:02:15 11 Q. And that's what I meant. | 17:04:08 11 | Q. As we discussed previously, if the air comes |
| The surface has some sort of creates a | 17:04:10 12 | out from underneath the operating room table and it |
| 17:02:18 13 convection current above the the drape; correct? | 17:04:12 13 | has a higher temperature than the ambient it's going |
| 17:02:23 14 A. It's It has, yeah, created a convective | 17:04:14 14 | to have some buoyancy force; correct? |
| 17:02:26 15 boundary there. | 17:04:14 14 | A. Yes. |
| • | 17:04:16 13 | |
| . , , , , , , , , , , , , , , , , , , , | | Q. And as if it's carrying particles, it has |
| 17:02:29 17 correct? | 17:04:19 17 | the buoyancy force that it has from what it collected |
| 17:02:29 18 A. That is correct. | 17:04:24 18 | from underneath the table, plus the additional |
| 17:02:29 19 Q. And you have the unidirectional airflow | 17:04:26 19 | buoyancy force around the drape pushing it up because |
| 17:02:33 20 pushing down; correct? | 17:04:28 20 | the drape itself is creating a convection current with |
| 17:02:34 21 A. That's right. | 17:04:32 21 | a buoyancy force; correct? |
| 17:02:34 22 Q. And that buoyancy force is going to occur | 17:04:33 22 | A. That I don't understand. |
| along the entire drape in which the Bair Hugger is | 17:04:34 23 | Are you claiming that the drape, at that |
| 17:02:39 24 warming; correct? | 17:04:37 24 | point, is warmer than the surroundings? |
| 17:02:40 25 A. I think so. | 17:04:40 25 | Q. Yes. That's what your data shows. |
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| 17:02:41 1 Q. So that would occur around the arms; | 17:04:43 1 | A. No. The My data doesn't show anything |
| 17:02:43 2 correct? And to the And to the side. | 17:04:45 2 | about the temperature of the drape down at the sides. |
| 17:02:45 3 A. Yes. | 17:04:47 3 | Q. I'm talking about the drape right above the |
| 17:02:46 4 Q. Okay. So would you agree with me that that | 17:04:48 4 | Bair Hugger. |
| 17:02:48 5 buoyancy effect, I'd like to use the word it's energy; | 17:04:49 5 | A. Oh, all right. |
| 17:03:00 6 correct? It's some sort of force. | 17:04:50 6 | One more time, please. |
| 17:03:03 7 A. Right. There's a buoyant force applied to a | 17:04:50 7 | Q. Okay. I'm talking about the Bair Hugger |
| O sharped in density as your loss of the force is action | | where the drape is where we're seeing these convective |
| | _ | |
| | 17:04:57 | |
| O Dut my point is if air assessed and the side | 40 | currents. |
| Q. But my point is if air escapes out the side | 17:04:57 10 | A. Umm-hmm. |
| 17:03:14 11 it could also use that buoyancy force that the drape | 17:04:58 11 | A. Umm-hmm.Q. Do you agree with me that these convective |
| 17.03:14 11 it could also use that buoyancy force that the drape has to force the air or any particles that it's | 17:04:58 11 17:05:00 12 | A. Umm-hmm.Q. Do you agree with me that these convective currents, if air escapes from underneath the operating |
| it could also use that buoyancy force that the drape has to force the air or any particles that it's carrying further up the drape; correct? | 17:04:58 11 17:05:00 12 17:05:05 13 | A. Umm-hmm. Q. Do you agree with me that these convective currents, if air escapes from underneath the operating room table, as we discussed, to the path of least |
| it could also use that buoyancy force that the drape has to force the air or any particles that it's carrying further up the drape; correct? MR. GOSS: Just going to object that it's | 17:04:58 11 17:05:00 12 | A. Umm-hmm. Q. Do you agree with me that these convective currents, if air escapes from underneath the operating room table, as we discussed, to the path of least resistance around the arms or whatever, that it's |
| it could also use that buoyancy force that the drape has to force the air or any particles that it's carrying further up the drape; correct? | 17:04:58 11 17:05:00 12 17:05:05 13 | A. Umm-hmm. Q. Do you agree with me that these convective currents, if air escapes from underneath the operating room table, as we discussed, to the path of least |
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| it could also use that buoyancy force that the drape has to force the air or any particles that it's carrying further up the drape; correct? MR. GOSS: Just going to object that it's outside the scope of his experiment. | 17:04:58 11 17:05:00 12 17:05:05 13 17:05:08 14 17:05:11 15 | A. Umm-hmm. Q. Do you agree with me that these convective currents, if air escapes from underneath the operating room table, as we discussed, to the path of least resistance around the arms or whatever, that it's going to be have its own buoyant force and that it |
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| it could also use that buoyancy force that the drape has to force the air or any particles that it's carrying further up the drape; correct? MR. GOSS: Just going to object that it's outside the scope of his experiment. Q. Do you understand my question? A. Could you repeat that, please? A. Could you repeat that's covered that's hea that's been heated by the Bair Hugger and that's going to have convection currents that causes an upward buoyancy force; correct? And you're going to have air underneath the operating room table, okay, that's at a higher temperature, and when it escapes near the drape, at the edge of a drape, okay, that | 17:04:58 11 17:05:00 12 17:05:05 13 17:05:08 14 17:05:11 15 17:05:15 16 17:05:16 17 17:05:20 18 17:05:22 19 17:05:23 20 17:05:24 21 17:05:26 22 17:05:28 23 17:05:30 24 | A. Umm-hmm. Q. Do you agree with me that these convective currents, if air escapes from underneath the operating room table, as we discussed, to the path of least resistance around the arms or whatever, that it's going to be have its own buoyant force and that it could combine with the buoyant force that's being produced by the drape to continue to rise any particles above this patient. Do you agree with that? MR. GOSS: Same objection, calls for speculation about a particle path. A. Particles were not a part of our study. Q. I understand that, but as a engineer that has done experimental fluid dynamics, and I think you |

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| | 329 | | 331 |
| 17:05:37 1 | understand you want to hide behind this wasn't part of | 17:07:51 1 | A. Well smoke is a better technique than the |
| • | our study, but I'm asking you as an engineer. | | neutrally buoyant bubbles because the particles are |
| • | A. Well do you understand | | much smaller and therefore inertia effects would be |
| | Q. Do you know the answer | | reduced. |
| - | MR. GOSS: Move to strike. | _ | But you have to be careful with the smoke |
| | Q. Do you know the answer to that from an | | also because it has the drawback that it if it's |
| - | engineering standpoint, "yes" or "no"? | _ | introduced at a point then you may see only one |
| | | • | feature of the flow and you won't see the flow over |
| | A. Do you understand that you're asking me to | _ | here that didn't have smoke added. |
| 17:05:47 9 17:05:49 10 | speculate on something that I didn't measure and didn't consider? | 17:08:14 9 | Q. And turbulence would have a significant |
| 17:05:49 10 | Q. I'm talking about common engineering | 17:08:16 10 | effect on smoke, correct, in smoke studies. |
| 17:05:50 11 | principles. | 17:08:20 11 | A. The It depends on the size of the smoke |
| 17:05:52 12 | A. I really don't want to comment on particles, | 17:08:22 12 | particle. Smoke is sometimes used in PIV, and |
| 17:05:54 13 | it wasn't part of my study. The study was airflow. | 17:08:24 13 | titanium titanium dioxide particles that are |
| 17:05:56 14 | Q. So you're not an expert on particles at all. | 17:08:28 14 | submicron, and I believe that they demonstrate little |
| 17:05:59 15 | A. Particles have been involved in some work of | 17:08:33 15 | inertia in some cases. |
| 17:06:02 17 | mine in the past, but I don't consider myself a | 17:08:36 17 | Q. Okay. But |
| 17:06:04 17 | particle expert. | 17:08:38 17 | How long does the smoke, if you |
| 17:06:06 10 | Q. Okay. So you're not going to criticize | 17:08:40 10 | If you use smoke, how long does it last for, |
| 17:06:07 19 | Elghobashi as in his particle flow. | 17:08:43 19 | what's the distance that it would be visible; do you |
| 17:06:10 20 | A. I criti | 17:08:45 20 | know? |
| 17:06:11 21 17:06:12 22 | My criticism of Elghobashi is in his | 17:08:48 21 17:08:50 22 | A. The distance that smoke would be visible. |
| 17:06:12 22 17:06:14 23 | boundary condition. | 17:08:50 22 | Q. Yeah. If it's in a high-speed or turbulent |
| 17:06:14 23 | Q. Okay. As well as your criticism of Abraham | 17:08:52 23 | environment. |
| 17:06:15 24 | too. | 17:08:55 24 | A. I have a little trouble understanding the |
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| | CONFIDENTIAL SLIP IECT TO DEOTECTIVE ORDER | | CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER |
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| 17:06:23 1 | 330 | 17·08·59 1 | 332 |
| 17:06:23 1 | 330 A. Yeah. | 17:08:59 1 | 332 distance at which it would be visible. These |
| 17:06:23 2 | A. Yeah.Q. Do you have any criticisms of Dr. Kuehn and | 17:09:02 2 | 332 distance at which it would be visible. These particles aren't evaporating. If they're illuminated |
| 17:06:23 2 17:06:25 3 | A. Yeah. Q. Do you have any criticisms of Dr. Kuehn and his measurements? | 17:09:02 2 17:09:06 3 | distance at which it would be visible. These particles aren't evaporating. If they're illuminated properly they'll be visible wherever they are. |
| 17:06:23 2 17:06:25 3 17:06:28 4 | A. Yeah. Q. Do you have any criticisms of Dr. Kuehn and his measurements? A. No. | 17:09:02 2 17:09:06 3 17:09:09 4 | distance at which it would be visible. These particles aren't evaporating. If they're illuminated properly they'll be visible wherever they are. Q. Okay. So water vapor is sometimes used for |
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| 17:06:23 2 17:06:25 3 17:06:28 4 17:06:36 5 17:06:43 6 | A. Yeah. Q. Do you have any criticisms of Dr. Kuehn and his measurements? A. No. Q. You do understand that Wait a second. You opined in your report that "particles in | 17:09:02 2 17:09:06 3 17:09:09 4 17:09:13 5 17:09:15 6 | distance at which it would be visible. These particles aren't evaporating. If they're illuminated properly they'll be visible wherever they are. Q. Okay. So water vapor is sometimes used for smoke; correct? A. Fog. Water fog. |
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| 17:06:23 2 17:06:25 3 17:06:28 4 17:06:36 5 17:06:43 6 17:06:55 7 17:06:58 8 17:07:00 9 | A. Yeah. Q. Do you have any criticisms of Dr. Kuehn and his measurements? A. No. Q. You do understand that Wait a second. You opined in your report that "particles in an airstream have inertia and therefore do not always followstreamlines of the flow." A. Could you show me where that is? | 17:09:02 2 17:09:06 3 17:09:09 4 17:09:13 5 17:09:15 6 17:09:16 7 17:09:17 8 17:09:17 9 | distance at which it would be visible. These particles aren't evaporating. If they're illuminated properly they'll be visible wherever they are. Q. Okay. So water vapor is sometimes used for smoke; correct? A. Fog. Water fog. Q. Yes. A. Yes. Q. Would you consider that reliable? |
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| 17:06:23 | A. Yeah. Q. Do you have any criticisms of Dr. Kuehn and his measurements? A. No. Q. You do understand that Wait a second. You opined in your report that "particles in an airstream have inertia and therefore do not always followstreamlines of the flow." A. Could you show me where that is? Q. Page 3. A. Okay. Now to Do you want me to comment, or are you asking a question? Q. Well, I mean, you commented on particles following airstream and having inertia. A. We're now talking about two very different issues. The issue I think you're asking about are skin squames that in the air. The issue that I'm talking about here is the use of neutrally buoyant helium bubbles as flow tracers and the inertia associated with those bubbles which has basically | 17:09:02 2 17:09:06 3 17:09:09 4 17:09:15 6 17:09:16 7 17:09:17 8 17:09:20 10 17:09:25 11 17:09:28 12 17:09:31 13 17:09:36 15 17:09:37 16 17:09:38 17 17:09:40 18 17:09:40 19 17:09:41 20 17:10:13 21 | distance at which it would be visible. These particles aren't evaporating. If they're illuminated properly they'll be visible wherever they are. Q. Okay. So water vapor is sometimes used for smoke; correct? A. Fog. Water fog. Q. Yes. A. Yes. Q. Would you consider that reliable? A. Once again, being myself a proponent of optical methods that don't involve inertia on particles I'm skeptical of particle visualization techniques, including water fog. Q. Okay. And water fog dissipiates into the air; correct? A. Eventually, yes. Q. Especially if it's turbulent or high velocity. A. Yes. Q. Okay. Do you agree that thermal sources could cause contaminated air to rise? |
| 17:06:23 | A. Yeah. Q. Do you have any criticisms of Dr. Kuehn and his measurements? A. No. Q. You do understand that Wait a second. You opined in your report that "particles in an airstream have inertia and therefore do not always followstreamlines of the flow." A. Could you show me where that is? Q. Page 3. A. Okay. Now to Do you want me to comment, or are you asking a question? Q. Well, I mean, you commented on particles following airstream and having inertia. A. We're now talking about two very different issues. The issue I think you're asking about are skin squames that in the air. The issue that I'm talking about here is the use of neutrally buoyant helium bubbles as flow tracers and the inertia associated with those bubbles which has basically disqualified that throughout several decades as a useful flow-visualization technique. So it's really | 17:09:02 2 17:09:06 3 17:09:09 4 17:09:15 6 17:09:16 7 17:09:17 8 17:09:20 10 17:09:25 11 17:09:28 12 17:09:31 13 17:09:31 13 17:09:38 17 17:09:38 17 17:09:40 18 17:09:40 19 17:09:41 20 17:10:17 22 | distance at which it would be visible. These particles aren't evaporating. If they're illuminated properly they'll be visible wherever they are. Q. Okay. So water vapor is sometimes used for smoke; correct? A. Fog. Water fog. Q. Yes. A. Yes. Q. Would you consider that reliable? A. Once again, being myself a proponent of optical methods that don't involve inertia on particles I'm skeptical of particle visualization techniques, including water fog. Q. Okay. And water fog dissipiates into the air; correct? A. Eventually, yes. Q. Especially if it's turbulent or high velocity. A. Yes. Q. Okay. Do you agree that thermal sources could cause contaminated air to rise? A. "Contaminated air"? |
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| 17:06:23 | A. Yeah. Q. Do you have any criticisms of Dr. Kuehn and his measurements? A. No. Q. You do understand that Wait a second. You opined in your report that "particles in an airstream have inertia and therefore do not always followstreamlines of the flow." A. Could you show me where that is? Q. Page 3. A. Okay. Now to Do you want me to comment, or are you asking a question? Q. Well, I mean, you commented on particles following airstream and having inertia. A. We're now talking about two very different issues. The issue I think you're asking about are skin squames that in the air. The issue that I'm talking about here is the use of neutrally buoyant helium bubbles as flow tracers and the inertia associated with those bubbles which has basically disqualified that throughout several decades as a useful flow-visualization technique. So it's really two different things. | 17:09:02 2 17:09:06 3 17:09:09 4 17:09:15 6 17:09:16 7 17:09:17 8 17:09:20 10 17:09:25 11 17:09:28 12 17:09:31 13 17:09:31 14 17:09:36 15 17:09:37 16 17:09:40 18 17:09:40 19 17:09:41 20 17:10:13 21 17:10:17 22 17:10:18 23 17:10:19 24 | distance at which it would be visible. These particles aren't evaporating. If they're illuminated properly they'll be visible wherever they are. Q. Okay. So water vapor is sometimes used for smoke; correct? A. Fog. Water fog. Q. Yes. A. Yes. Q. Would you consider that reliable? A. Once again, being myself a proponent of optical methods that don't involve inertia on particles I'm skeptical of particle visualization techniques, including water fog. Q. Okay. And water fog dissipiates into the air; correct? A. Eventually, yes. Q. Especially if it's turbulent or high velocity. A. Yes. Q. Okay. Do you agree that thermal sources could cause contaminated air to rise? A. "Contaminated air"? Q. Yes. |
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| | CASE 0:15-md-02666-JNE-DTS Dog CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 333 | 823-8 | Filed 09/12/17 Page 86 of 90 CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 335 |
|--|---|--|---|
| 17:10:25 1 | wouldn't disagree with it. | 17:12:19 1 | Q. and then it drops down; correct? |
| 17:10:26 2 | Q. I mean, you put it down in your downflow | 17:12:19 | A. Can we put it this way? In turbulent motion |
| _ | generator. You said: "If the downflow speed is too | 17:12:21 2 | it's when it the turbulent eddies are causing it to |
| | low, contaminated air may rise from" the "thermal | | mix out with the cooler air and so the temperature |
| 17:10:31 4 | sources, spread, and reach the surgical site." | | · |
| | | | difference fairly quickly dissipates. Q. And |
| 6 7 | A. Yes.Q. You agree with that statement; correct? | 17:12:29 6 | |
| 8 | , | | A. That's the way I look at it. |
| 9 | A. It's my statement. Q. And conta | | Q. And it loses its buoyant effect. |
| 17:10:51 10 | | 17:12:34 9 | A. It loses its buoyancy.Q. Okay. But as long as you as long as it |
| 17:10:51 10 | (Interruption by the reporter.) MR. GOSS: Is that on page 6? | 17:12:36 10 | has a buoyant effect and the temperature's greater |
| 17:10:51 11 | MR. ASSAAD: Yes. | 17:12:37 11 | than the ambient air, it's going to continue to rise; |
| 17:10:54 12 | Q. Now contaminated air are is air with | 17:12:40 12 | correct? |
| 17:10:54 13 | particles; correct? | 17:12:43 13 | A. Yes. |
| 17:10:50 14 | A. Or some | 17:12:44 15 | Q. Okay. So you would agree with me that if |
| 17:10:59 16 | Q. And Bacteria. | 17:12:44 15 | air escapes, contaminated air escapes along the sleeve |
| 17:11:01 17 | A other contamination. | 17:12:50 17 | and it it could follow along the convection |
| 17:11:02 18 | Q. Well bacteria particles. I mean, bacteria | 17:12:53 18 | currents that you've illustrated in Figure 10 along |
| 17:11:04 19 | is a particle; correct? | 17:13:03 19 | the along the convective currents created by the |
| 17:11:07 20 | A. Bacteria ride on skin particles, but usually | 17:13:11 20 | warm drape; correct? |
| 17:11:11 21 | not by themselves in my understanding. | 17:13:13 21 | (Interruption by the reporter.) |
| 17:11:13 22 | Q . Well, okay. | 17:13:13 22 | MR. GOSS: Object to form. |
| 17:11:19 23 | So going back to my last hypothetical, if | 17:13:16 23 | A. Could I get you to repeat that? |
| 17:11:26 24 | contaminated air assuming that all air underneath | 17:13:18 24 | Q. You agree with me that |
| 17:11:30 25 | the operating room table is contaminated. Can we | 17:13:24 25 | So you would agree with me that if air |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 334 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 336 |
| 17:11:32 | Can you agree with me on that assumption? | 17:13:26 1 | escapes if contaminated air escapes along the |
| 17:11:33 2 | A. Well I don't have measurements of it, so | 17:13:30 2 | sleeve, as we discussed, like underneath the sleeve |
| 17:11:36 3 | Q. Let's just make the assumption all air is | 17:13:33 3 | and it escapes out, okay, it would have a buoyant |
| 17:11:38 4 | contaminated. | 17:13:39 4 | effect, and as long as it's above the drape that's |
| 17:11:39 5 | A. But if you if there is contamination down | 17:13:42 5 | being heated by the Bair Hugger which forms convective |
| 17:11:40 6 | there then. | 17:13:48 6 | currents, it would continue to rise along these |
| 17:11:41 7 | Q. Okay. | 17:13:51 7 | thermal plumes that you show in Figure 10. |
| 17:11:41 8 | A. Okay. | 17:13:53 | MR. GOSS: Object to form, calls for |
| 17:11:43 9 | Q. Now you agree with me that if you have | 17:13:54 | speculation. |
| 17:11:44 10 | contaminated air that escapes from warm air that | 17:13:56 10 | A. I would agree with that once again with the |
| 17:11:48 11 | escapes from underneath the drape, that the buoyant | 17:14:03 11 | qualification that at the time the air has gotten that |
| 17:11:51 12 | forces, if it's warmer than the ambient air, is going | 17:14:08 12 | far away from its heat source it's probably pretty |
| 17:11:53 13 | to rise; correct? As you wrote down here. | 17:14:11 13 | well mixed out with the surrounding air, and therefore |
| 17:11:56 14 | A. If it is warmer than the ambient air, yes, | 17:14:14 14 | little temperature potential for buoyancy. |
| 17:11:58 15 | it's obvious. | 17:14:18 15 | Q. But there's buoyancy along the entire drape |
| 17:11:59 16 17:12:01 17 | Q. Till it reaches a equilibrium, and then it'll stay down and go down, correct, till it cools | 17:14:20 16 17:14:22 17 | on top of the Bair Hugger; correct? A. On top of it. |
| 17:12:01 17 | off. | 17:14:22 17 | Q. Okay. So along that whole drape if the air |
| 17:12:04 10 | A. I'm sorry. Once again I'm having trouble. | 17:14:23 10 | escapes from right around that drape to the side |
| 17:12:08 20 | Q. If contaminated air is rising as the buoyant | 17:14:28 20 | there's buoyant forces around the whole Bair Hugger |
| 17:12:10 21 | forces, okay, but it's releasing energy when it does | 17:14:30 21 | that it could flow and be a part of. |
| 17:12:13 22 | it and releasing and the temperature decreases | 17:14:32 22 | MR. GOSS: Objection, calls for |
| 17:12:16 23 | until it comes to an equilibrium with the ambient | 17:14:34 23 | speculation, asked and answered. |
| 17:12:19 24 | air | 17:14:36 24 | Q. Agreed? |
| 17:12:19 25 | A. Right. | 17:14:41 25 | A. Yes. |
| | STIREWALT & ASSOCIATES | | STIREWALT & ASSOCIATES |
| | 1-800-553-1953 info@stirewalt.com | | 1-800-553-1953 info@stirewalt.com |
| 84 of 89 she | eets Page 333 | to 336 of 352 | 2 07/24/2017 10:14:34 AM |

| Q. Okay. MR. ASSAAD: Do you need a break? THE REPORTER: Yes, please. MR. ASSAAD: Okay. Let's take a break. (Recess taken from 5:18 to 5:22 p.m.) BY MR. ASSAAD: Q. Going back to Figures 12 and 13, did you perform any of the same measurements for the HotDog device? A. We did not, and that would that would be a useful thing to do if the experiments were continued. Q. Okay. So in the summary of your opinions, which is page 21, under number 4), the last sentence, you write, there are no great differences in the visible thermal behavior of the two blankets in the OR laminar downflow conditions. You're referring to what was seen from the schlieren testing above the patient; correct? A. I'm sorry. Which Which Q. Number 4). A. Number 4). Q. The last sentence. A. I'm referring to what we can see above and | 17:24:20 1 17:24:21 2 17:24:21 3 17:24:22 4 17:24:28 5 17:24:31 6 17:24:32 7 17:24:35 8 17:24:39 9 17:24:42 10 17:24:44 11 17:24:45 12 17:24:45 12 17:24:45 14 17:24:51 14 17:25:04 17 17:25:08 18 17:25:04 17 17:25:04 17 17:25:04 20 17:25:12 21 17:25:20 22 17:25:24 23 17:25:26 24 | suit? MR. ASSAAD: Yes. A. Yes. Q. Okay. And with respect to figure C, which you used an electrocautery device, correct; right? A. That was Yes. Q. Okay. You agree with me that it's highly unlikely that there would be any live bacteria in any of the smoke that's created that rises up from the electrocautery device; correct? MR. GOSS: Object to form, beyond the scope of his expertise. A. I'm not a live bacteria expert so I'm speculating now, but I can also cite you well I can't cite specific literature right off the top of my head. There is a lot of literature about a laser cautery, rather than this device, in which the plumes are contaminated. And what exactly the nature of the contamination, whether it's bacterial or whether the smoke is it is caustic or what it is, but I have seen those in the literature. Q. Well you write here that on number 8) on your summary: "Some OR equipment, such as |
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| Q. The last sentence. | 17:25:24 23 | your summary: "Some OR equipment, such as |
| _1 | | |
| A. I'm referring to what we can see above and | 17:25:26 24 | |
| | | electrocautery pens, create their own rising, |
| just slightly to the sides of the blanket. | 17:25:29 25 | contamination-bearing thermal plumes." |
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| | | 340 |
| | 1 | A. Yes. |
| | | _ |
| | | Q. You're not an expert in that; are you? |
| | _ | A. No, sir. |
| | _ | Q. Okay. So you agree with me that you're not |
| | 17:25:36 5 | going to be offering this testimony at trial; correct? |
| Q. Okay. And by the way, let's go to page | 17:25:38 6 | MR. GOSS: I'll object to form. I think |
| or Figure 15, which is page 16. | 17:25:40 7 | the report speaks for itself. |
| A. Yes. | 17:25:41 8 | Q. You're not an expert in it; correct? |
| Q. Do you know what an orthopedic surgeon wears | 17:25:43 | A. I'm not an expert. |
| during a total hip or total knee arthroplasty? | 17:25:44 10 | Q. Okay. |
| A. I don't know the exact garb. What we had | 17:25:46 11 | MR. GOSS: With respect to contamination. |
| here was a simulation of hospital garb. | 17:25:48 12 | Q. Whether or not electro electrocautery |
| • • | | pens create their own rising, contamination-bearing |
| · | | thermal plumes. |
| | | A. I'm not an expert on on electrocautery |
| | | pens and contamination. |
| | | • _ |
| | | Q. And you agree with me that if a physician is |
| | | wearing a space suit Well, strike that. |
| | | You don't know what an orthopedic surgeon |
| | 17:26:06 20 | wears at all in a during a total hip or total knee |
| A. If it is a total-containment suit, of course | 17:26:09 21 | arthroplasty; correct? |
| it would affect it. | 17:26:11 22 | A. Well I realize that there are different |
| Q. Okay. And that would definitely affect the | 17:26:14 23 | garbs for different operating conditions, and in some |
| images in Figures a and b; correct? | 17:26:18 24 | cases a space suit-type garb with total containment is |
| | 17:26:23 25 | used. The same garb is used in some clean rooms. So |
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| t i c c c c c c c c c c c c c c c c c c | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 338 Q. Okay. So you're not referring to anything that could happen occur underneath the operating room table; correct? A. Well as we already discussed, I don't have measurements on that. Q. Okay. And by the way, let's go to page or Figure 15, which is page 16. A. Yes. Q. Do you know what an orthopedic surgeon wears during a total hip or total knee arthroplasty? A. I don't know the exact garb. What we had here was a simulation of hospital garb. Q. Okay. You're not aware of the space suits that they wear? A. Oh, that was we made no attempt to do a space suit-type garb. Q. And you agree that the space suits would affect flow coming out from if you're fully covered all the way down it affects flow coming out from a like from the shirt or the chest area. A. If it is a total-containment suit, of course it would affect it. Q. Okay. And that would definitely affect the images in Figures a and b; correct? MR. GOSS: If they had been wearing a space STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com | just slightly to the sides of the blanket. STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 338 Q. Okay. So you're not referring to anything that could happen occur underneath the operating room table; correct? A. Well as we already discussed, I don't have measurements on that. Q. Okay. And by the way, let's go to page or Figure 15, which is page 16. A. Yes. Q. Do you know what an orthopedic surgeon wears during a total hip or total knee arthroplasty? A. I don't know the exact garb. What we had here was a simulation of hospital garb. Q. Okay. You're not aware of the space suits that they wear? A. Oh, that was we made no attempt to do a space suit-type garb. Q. And you agree that the space suits would affect flow coming out from if you're fully covered all the way down it affects flow coming out from a like from the shirt or the chest area. A. If it is a total-containment suit, of course it would affect it. Q. Okay. And that would definitely affect the images in Figures a and b; correct? MR. GOSS: If they had been wearing a space STIREWALT & ASSOCIATES 1-800-553-1953 info@stirewalt.com |

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|---|---|--|--|
| | 341 | | 343 |
| 17:26:26 1 | I am not completely ignorant on this topic. | 17:29:22 1 | Q. Okay. And did you do a thermal plume of a |
| 17:27:07 2 | Q. Have you ever heard the term "protective | 17:29:25 2 | wound? |
| 17:27:08 | effect," "protected effect"? | 17:29:25 | A. No. We did not do wounds. |
| 17:27:12 4 | A. I have. | 17:29:28 4 | Q. Okay. So you don't know the effect of the |
| 17:27:14 5 | Q. In what In what scenario? | 17:29:31 5 | thermal plume of a wound in a surgery. |
| 17:27:20 6 | MR. GOSS: In relation to his work on this | 17:29:33 6 | A. Not directly from any work I did, just these |
| 17:27:23 7 | case? MR. ASSAAD: In anything. | | references. Q. Okay. And you agree with me that the |
| 17:27:23 8 17:27:25 9 | A. Heard the term, but at this point in the day | 17:29:35 8 17:29:43 9 | airflow in an operating room, one of its purposes is |
| 17:27:33 10 | I, you know, can't bring up much about it. | 17:29:43 3 | to create a protective effect around the surgical site |
| 17:27:35 11 | Q. Okay. You agree with me that the downward | 17:29:50 11 | and the surgical area; correct? |
| 17:27:39 12 | flow of a unidirectional airflow creates a protective | 17:29:53 12 | A. In this sense I do agree with the term |
| 17:27:44 13 | effect over the surgical area in an operation. | 17:29:56 13 | protective effect. |
| 17:27:46 14 | A. Now that I see what you're getting at, | 17:29:57 14 | Q. Okay. And And the protect the airflow |
| 17:27:48 15 | that's actually addressed in my report. | 17:30:03 15 | and the protective effect it creates is something that |
| 17:27:50 16 | Q. Where? | 17:30:10 16 | a lot of research has been done to determine as what |
| 17:28:01 17 | A. I'm not sure "protective effect" was the | 17:30:12 17 | you said, if it's too fast or too slow, they try to |
| 17:28:04 18 | wording. | 17:30:15 18 | find the right flow; correct? |
| 17:28:04 19 | Q. Would it be page 6 of what I read to you | 17:30:17 19 | A. I'm aware of some research, |
| 17:28:06 20 | before about the down downflow speed, about the | 17:30:17 20 | Q. Okay. |
| 17:28:09 21 | airflow? | 17:30:19 21 | A. the references that I cited. |
| 17:28:10 22 | A. That's probably right. | 17:30:21 22 | Q. All right. And you would agree with me that |
| 17:28:11 23 | Q . Okay. | 17:30:27 23 | in for the safety of a patient you don't want to do |
| 17:28:14 24 | A. (Witness reviewing exhibit.) | 17:30:33 24 | anything that could weaken that protective effect of |
| 17:28:19 25 | Q. The first paragraph of page 6. Probably the | 17:30:36 25 | the unidirectional airflow; correct? |
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| 17:08:03 | 342 | 17:30:38 1 | 344 |
| 17:28:23 1 | 342 fourth line down. | 17:30:38 1 17:30:40 2 | 344 MR. GOSS: I'm going to object that he's |
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| 17:28:34 | fourth line down. A. If the downflow speed is too low, contaminated air may rise (Interruption by the reporter.) THE WITNESS: I'll read it to myself. A. If the this is the last par sentence of that paragraph: "if the downflow speed is too high, it can suppress the natural thermal plume rising from the surgical site and impinge contaminants upon the patient and upon the surgical wound." And that is mentioned later again because it was referenced by ASHRAE and by Int-Hout, so. Q. You talking about the reference about thermal plumes with respect to Memarzadeh? A. Yes. Q. Okay. Are you aware of any other Do you know Have you ever heard of the thermal plume before this case? A. If you'll check my list of references I have publications on the human thermal plume. Q. Okay. A. And a student named Brent Craven and I did, | 17:30:40 2 17:30:42 3 17:30:45 4 17:30:45 5 17:30:56 7 17:30:58 8 17:31:00 9 17:31:03 10 17:31:08 12 17:31:11 13 17:31:16 15 17:31:20 16 17:31:21 17 17:31:23 18 17:31:26 19 17:31:27 20 17:31:28 21 | MR. GOSS: I'm going to object that he's not an expert in hospital HVAC. But if you have an answer to the question, you may offer it. A. I'm citing to references who have made that claim. I haven't actually done that myself. Q. I understand that, but when you're but you agree that there there is a certain purpose to having a protective effect. A. If there is a protective effect, then it certainly serves a purpose. Q. To protect the patient from contamination; correct? MR. GOSS: Same objection. A. It's, yes, to protect the patient from contamination. Q. Okay. To protect the surgeons that are putting their hands into a wound from being contaminated; correct? A. That I am not aware of. Q. Okay. Going back to Figure 15. A. Yes? Q. The first paragraph underneath the pictures |
| 17:28:34 | fourth line down. A. If the downflow speed is too low, contaminated air may rise | 17:30:40 2 17:30:42 3 17:30:45 4 17:30:49 5 17:30:56 7 17:30:56 8 17:30:56 10 17:31:07 11 17:31:08 12 17:31:11 13 17:31:12 14 17:31:16 15 17:31:20 16 17:31:21 17 17:31:22 18 17:31:23 18 17:31:26 19 17:31:27 20 17:31:28 21 17:31:53 23 | MR. GOSS: I'm going to object that he's not an expert in hospital HVAC. But if you have an answer to the question, you may offer it. A. I'm citing to references who have made that claim. I haven't actually done that myself. Q. I understand that, but when you're but you agree that there there is a certain purpose to having a protective effect. A. If there is a protective effect, then it certainly serves a purpose. Q. To protect the patient from contamination; correct? MR. GOSS: Same objection. A. It's, yes, to protect the patient from contamination. Q. Okay. To protect the surgeons that are putting their hands into a wound from being contaminated; correct? A. That I am not aware of. Q. Okay. Going back to Figure 15. A. Yes? |
| 17:28:34 | fourth line down. A. If the downflow speed is too low, contaminated air may rise | 17:30:40 2 17:30:42 3 17:30:45 4 17:30:45 6 17:30:56 7 17:30:58 8 17:31:00 9 17:31:03 10 17:31:03 12 17:31:12 14 17:31:16 15 17:31:20 16 17:31:21 17 17:31:22 19 17:31:23 18 17:31:26 19 17:31:27 20 17:31:28 21 17:31:52 22 17:31:53 23 17:31:58 24 | MR. GOSS: I'm going to object that he's not an expert in hospital HVAC. But if you have an answer to the question, you may offer it. A. I'm citing to references who have made that claim. I haven't actually done that myself. Q. I understand that, but when you're but you agree that there there is a certain purpose to having a protective effect. A. If there is a protective effect, then it certainly serves a purpose. Q. To protect the patient from contamination; correct? MR. GOSS: Same objection. A. It's, yes, to protect the patient from contamination. Q. Okay. To protect the surgeons that are putting their hands into a wound from being contaminated; correct? A. That I am not aware of. Q. Okay. Going back to Figure 15. A. Yes? Q. The first paragraph underneath the pictures you say, Figure 15b shows the same OR staff member |
| 17:28:34 | fourth line down. A. If the downflow speed is too low, contaminated air may rise | 17:30:40 2 17:30:42 3 17:30:45 4 17:30:45 6 17:30:56 7 17:30:58 8 17:31:00 9 17:31:03 10 17:31:03 12 17:31:12 14 17:31:16 15 17:31:20 16 17:31:21 17 17:31:22 19 17:31:23 18 17:31:26 19 17:31:27 20 17:31:28 21 17:31:52 22 17:31:53 23 17:31:58 24 | MR. GOSS: I'm going to object that he's not an expert in hospital HVAC. But if you have an answer to the question, you may offer it. A. I'm citing to references who have made that claim. I haven't actually done that myself. Q. I understand that, but when you're but you agree that there there is a certain purpose to having a protective effect. A. If there is a protective effect, then it certainly serves a purpose. Q. To protect the patient from contamination; correct? MR. GOSS: Same objection. A. It's, yes, to protect the patient from contamination. Q. Okay. To protect the surgeons that are putting their hands into a wound from being contaminated; correct? A. That I am not aware of. Q. Okay. Going back to Figure 15. A. Yes? Q. The first paragraph underneath the pictures you say, Figure 15b shows the same OR staff member above an empty surgical table and reveals how |

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| 17:32:04 1 | contamination gets into the recirculation region | 17:34:45 1 | FloViz for just performing these tests, or was it for |
| 17:32:07 | despite the fact that the staff member is properly | 17:34:48 2 | future tests as well? |
| 17:32:09 3 | gowned. | 17:34:49 3 | A. These tests. |
| 17:32:10 4 | You have no expertise to determine whether | 17:34:50 4 | Q. Okay. Based on our your testimony today |
| 17:32:10 | or not that's a proper gowning technique for an | 17:35:09 5 | is there anything that you would like to amend from |
| 17:32:15 | orthopedic surgeon; correct? | 17:35:11 6 | this report regarding your opinions? |
| 17:32:18 7 | A. That's correct. | 17:35:16 7 | A. "Amend" to the report. You mean additions. |
| 17:32:42 | Q. Have you seen the Bair Hugger prior to being | 17:35:18 | Q. No. Change. |
| 17:32:45 | involved in this case? | 17:35:19 | A. Changes. Not Nothing I want to amend at |
| 17:32:47 10 | A. No. | 17:35:26 10 | this point. |
| 17:32:49 11 | Q. So that you don't know how a Bair Hugger is | 17:35:27 11 | Q. Is there anything with respect to a |
| 17:32:52 12 | usually used in an operating room, like where it's | 17:35:29 12 | patient's medical records that you may receive in the |
| 17:32:54 13 | placed. | 17:35:31 13 | future that would affect your opinions provided in |
| 17:32:55 14 | A. I don't know or I didn't know? | 17:35:35 14 | this report which is Exhibit 2? |
| 17:32:57 15 | Q. You don't know. You don't know what the | 17:35:37 15 | A. That's very hypothetical. I I have no |
| 17:32:59 16 | common practice is. | 17:35:40 16 | idea what a patient's medical records would what |
| 17:33:01 17 | A. Well I've seen the instructions for the Bair | 17:35:46 17 | effect it would have. I've not seen any patients' |
| 17:33:05 18 | Hugger blanket, video, so I'm not completely ignorant | 17:35:51 18 | medical records. |
| 17:33:09 19 | on this topic. | 17:35:56 19 | Q. Are you aware that general causation |
| 17:33:10 20 | Q. I understand that, but you haven't looked at | 17:35:58 20 | discovery is closed in this case? If you know? |
| 17:33:12 21 | many operating rooms to see how most operating rooms | 17:36:00 21 | MR. GOSS: Object to form. |
| 17:33:14 22 | use a Bair Hugger. | 17:36:01 22 | Q. Do you know? |
| 17:33:15 23 | A. The only time I've ever been in an operating | 17:36:06 23 | MR. GOSS: Do you know what "general |
| 17:33:18 24 | room was as a patient. | 17:36:07 24 | causation discovery" is? |
| 17:33:19 25 | Q. Okay. By the way, what was the air exchange | 17:36:09 25 | THE WITNESS: I I don't know the exact |
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| 17:33:29 | rate or air change rate per hour for your setup? | 17:36:10 | meaning of that term. |
| 17:33:33 2 | A. That doesn't even | 17:36:55 2 | Q. And just to be clear, you're not going to |
| 17:33:37 | You can't even define it in our setup, | 17:36:56 | offer any testimony on infectious disease issues, |
| 17:33:40 4 | because that's only defined for a fixed room. | 17:36:59 4 | orthopedic issues, nursing issues, anesthesia issues, |
| 17:33:47 5 | Q. So you can't calculate that for an open air | 17:37:04 5 | warning issues, regulatory issues or computer |
| 17:33:49 6 | for | 17:37:06 6 | computational fluid dynamic issues; correct? |
| 17:33:49 7 | A. I believe the text here, I'll not look up | 17:37:08 7 | A. No. |
| 17:33:53 8 | the specific words, talks about that it's not the ACH, but it's the downflow velocity that we are trying to | 17:37:08 8 | MR. GOSS: Object to form on the to the extent that it's not consistent with what's in his |
| 17:33:57 9 | simulate, and we believe that's what matters as far as | 17:37:11 9 | report. |
| 17:34:01 10 | the interaction of patient-warming blankets and | 17:37:14 10 | A. I'm |
| 17:34:04 11 | downflow. | 17:37:16 12 | What I'm offering is what you see in this |
| 17:34:09 12 | Q. So you don't think the air exchange rate in | 17:37:18 13 | report. |
| 17:34:09 13 | an operating room matters with respect to | 17:37:18 13 | Q. Okay. If you were to find out that the |
| 17:34:14 15 | contamination? | 17:37:41 15 | temperature measurement on the Bair Hugger that says |
| 17:34:15 16 | A. I didn't say that. | 17:37:43 16 | 43 degrees was measured at the end of the hose and not |
| 17:34:16 17 | MR. GOSS: Object to form. | 17:37:49 17 | the beginning of the hose, would that change your |
| 17:34:30 18 | Q. In your report you mentioned about using a | 17:37:51 18 | opinions today? |
| 17:34:34 19 | different setup which you could possibly use in an | 17:37:52 19 | MR. GOSS: Objection, form, calls for |
| 17:34:36 20 | operating room? | 17:37:55 20 | speculation. |
| 17:34:36 21 | A. Yes. | 17:37:56 21 | A. I will speculate that nothing would change |
| | Q. Do you have any plans of doing that in the | 17:38:00 22 | except the assumed heat transfer along the hose. |
| 17:34:37 22 | | 17:38:04 23 | Q. Well if the temperature coming out of the |
| | future? | 17.00.04 | |
| 17:34:37 22 | future? A. It hasn't been decided. | 17:38:07 24 | end of the hose is 43 degrees, instead of coming out |
| 17:34:37 22 17:34:38 23 | | | |
| 17:34:37 22 17:34:38 23 17:34:39 24 | A. It hasn't been decided. | 17:38:07 24 | end of the hose is 43 degrees, instead of coming out |
| 17:34:37 22 17:34:38 23 17:34:39 24 | A. It hasn't been decided.Q. Okay. Was the \$70,000 that was paid to | 17:38:07 24 | end of the hose is 43 degrees, instead of coming out of the blower at 43 degrees so that heat transfer that |

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| | 349 | | 351 |
| 17:38:13 1 | occurs along the hose is irrelevant to respect of the | 1 | CERTIFICATE |
| | - | | |
| 17:38:18 2 | temperature of air getting into the blanket, would | 2 | I, Debby J. Campeau, hereby certify that I |
| 17:38:20 | that affect your opinions today? | 3 | am qualified as a verbatim shorthand reporter; that I |
| 17:38:21 4 | MR. GOSS: Same objection. | 4 | took in stenographic shorthand the testimony of GARY |
| 17:38:24 5 | A. No. | 5 | S. SETTLES, PH.D. at the time and place aforesaid; |
| 17:38:25 6 | Q. So it wouldn't cause you to question the | 6 | and that the foregoing transcript consisting of 350 |
| 17:38:27 7 | fact that the air that's coming into the blanket is 43 | 7 | pages is a true and correct, full and complete |
| 17:38:30 | degrees Celsius and the air coming out of the jets is | 8 | transcription of said shorthand notes, to the best of |
| 17:38:34 | between 32 and 33 degrees Celsius. | 9 | my ability. |
| 17:38:37 10 | MR. GOSS: Same objection, improper | 10 | Dated at Lino Lakes, Minnesota, this 22nd |
| 17:38:39 11 | hypothetical. Well it's contrary to his experimental | 11 | day of July, 2017. |
| 17:38:47 12 | findings, I'll say that. | 12 | |
| 17:38:52 13 | A. It doesn't matter where the temperature is | 13 | |
| 17:38:53 14 | measured, to the end of the hose, the beginning of the | 14 | |
| 17:38:56 15 | hose, the temperature that I measured the jets is what | 15 | DEBBY J. CAMPEAU |
| 17:38:59 16 | I measured. | 16 | Notary Public |
| 17:39:00 17 | Q. But does it make sense you're going to have | 17 | |
| 17:39:01 18 | a 10-degree drop or yeah, a 10-degree drop in | 18 | |
| 17:39:05 19 | temperature 10-degree Celsius, which is a | 19 | |
| 17:39:08 20 | significant number, from the from the point of | 20 | |
| 17:39:11 21 | entry of air | 21 | |
| 17:39:12 22 | A. Umm-hmm. | 22 | |
| 17:39:13 23 | Q into the blanket to outside the | 23 | |
| 17:39:15 24 | perforations? | 24 | |
| 17:39:16 25 | A. Yes, it makes sense to me. | 25 | |
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| | 350 | | CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER 352 |
| 17:39:17 1 | Q. It does? Okay. | | 1 SIGNATURE PAGE |
| 17:39:30 2 | MR. ASSAAD: Pass the witness. | | 2 I, GARY S. SETTLES, PH.D., the deponent, hereby |
| 17:39:32 3 | MR. GOSS: I have no questions at this | | 3 certify that I have read the foregoing transcript, |
| 17:39:35 4 | time. We will | | 4 consisting of 350 pages, and that said transcript is |
| 17:39:39 5 | MR. ASSAAD: I want him to read and sign. | | 5 a true and correct, full and complete transcription |
| 17:39:40 6 | MR. GOSS: Gabriel's going to jump jump | | 6 of my deposition, except per the attached |
| 17:39:42 7 | ahead of me. | | 7 corrections, if any. |
| 17:39:43 | You have the right to review your | | 8 PAGE LINE CHANGE/REASON FOR CHANGE |
| 17:39:45 | transcript, and I recommend that you do. | | 9 |
| 17:39:49 10 | MR. ASSAAD: I actually request that he | | 10 |
| 17:39:50 11 | reads and signs. | | 11 |
| 17:39:52 12 | MR. GOSS: And And I join in that | | 12 |
| 17:39:53 13 | request. | | 13 |
| 17:39:54 14 | So you will get a copy of your transcript | | 14 |
| 17:39:56 15 | you can review and make any changes, if you need to, | | 15 |
| 17:40:00 16 | within 30 days of receipt. | | 16 |
| 17:40:02 17 | THE WITNESS: All right. | | 17 |
| 17:40:04 18 | THE REPORTER: Off the record, please. | | 18 |
| 17:40:06 19 | (Deposition concluded at 5:40 p.m.) | | 19 |
| 20 | | | 20 Date Signature of Witness |
| 21 | | | 21 |
| 22 | | | 22 WITNESS MY HAND AND SEAL this |
| l | | | 23 day of , 2017. |
| 23 | | | 23 day of, 2017. |
| 23 24 | | | 24 |
| | | | |
| 24 | STIREWALT & ASSOCIATES | | 24 |